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Depressive Cognitions and Brain Function

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14. ABSTRACT The study is progressing well. Thus far, data collection has been completed for 40% of the target enrollment for the healthy control (HC) sample and 51.6% of target enrollment for the depressed sample. Recruitment efforts have been strong and at a pace that should accomplish full data collection within the coming year. Preliminary findings are encouraging, suggesting trends toward reduced depressive symptoms in the active internet-based cognitive behavior therapy (iCBT) condition compared to the monitored control (MC) group for depression and anxiety outcome measures including PHQ-9, K-10, HAM-D, and BAI. Statistically significant reductions in anhedonia symptoms were evident in the iCBT compared to the MC group. The iCBT group also shows statistically significant reduction in cognitive interference compared to the MC group. Preliminary neuroimaging data also confirm deficits in prefrontal activation and increased amygdala responses to subtle facial cues of anger among the depressed sample compared to the HCs. Depressed participants also show reduced functional connectivity between middle cingulate regions and bilateral insular cortex. Finally, depressed participants also show reduced fractional anisotropy, a measure of white matter axonal integrity, compared to HCs. This study is on track to provide important information regarding the effectiveness and neural correlates of iCBT.					
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## INTRODUCTION:

Despite the elevated rates of psychiatric problems among returning combat veterans, available evidence suggests that as many as half of soldiers screening positive for mental health problems never seek treatment for these issues (Fikretoglu et al., 2008, Hoge et al., 2006). One promising treatment approach that has shown efficacy in preliminary research and which may address issues related to stigma and barriers to care, is the use of web-based treatment interventions. In particular, *internet-based cognitive behavioral therapy* (iCBT) is rapidly emerging as a potentially efficacious treatment option for many individuals with mild to moderate depression (Andersson and Cuijpers, 2009). Emerging evidence suggests that iCBT is a particularly promising and well-accepted approach for treating large numbers of individuals while minimizing cost and clinicians' time demand. Recently, researchers from the School of Psychiatry at the University of New South Wales (UNSW) developed and validated several, clinician-assisted iCBT programs that have shown remarkable success in treating major depressive disorder (MDD), generalized anxiety disorder, social phobia, and panic disorder (Robinson et al., 2010, Titov et al., 2010, Titov et al., 2009). A particularly important element of this iCBT program is that it is equally effective regardless of whether supportive contact is provided by a trained clinician or a non-clinical technician. The present study attempts to fundamentally advance the validation of this treatment approach among individuals with MDD by examining changes in cognitive, affective, and neurobiological functioning following a 10-week standard treatment with iCBT. Validity of the treatment would be substantially bolstered by evidence of neurobiological changes within brain systems known to be involved in the pathophysiology of depression and by normalization of brain functioning that parallels changes produced by established pharmacologic and psychotherapeutic interventions. Several components of this study are unique and address unresolved questions surrounding iCBT. First, the study will evaluate treatment-related changes in depressotypic cognitions by using neurocognitive tasks that assess implicit cognitive biases commonly associated with depression and suicidal ideation. Second, this study will also examine changes in emotional resilience following treatment using standardized measures and instruments currently being administered Army-wide. Finally, the present study will employ functional magnetic resonance imaging (fMRI) to test the hypothesis that the internet-based treatment produces characteristic changes within the neurocircuitry known to underlie MDD using functional magnetic resonance imaging (fMRI).

## BODY:

### Accomplishments According to Statement of Work (SOW)

The study is progressing as planned. Consistent with the Statement of Work for YEAR 2 the following tasks have been accomplished:

**SOW 1. Data collection will continue through Year 2, with approximately 45 subjects completing the treatment program and two assessment/scanning sessions during the second year.**

#### **Accomplishments:**

- **Quarters # 1-4:** For reasons detailed in the previous report, initial recruitment was slower than expected. In Year 1, we anticipated that 25% of the sample would complete the program, but 4 healthy controls completed the program in Year 1. Recruitment improved in Year 2: 26 additional participants (8 controls, 18 depressed) completed the entire 10-week program and two assessments. In addition, 13 more participants (1 control, 12 depressed) are currently progressing through the treatment program. Thus, we currently have 30



complete datasets, plus 13 that are in process. Of these 43 subjects, 12 are healthy controls (40% of the target healthy control sample) and 31 are depressed (51.6% of the target depressed sample).

**SOW 2. Preliminary data processing and analysis will be initiated in Year 2 and will continue as data become available.**

**Accomplishments:**

- **Quarters # 1-4:** Preliminary data processing and analysis has been ongoing throughout this period. Neuroimaging data is quality checked immediately and is then preprocessed and analyzed at the individual subject level. Group-level single-timepoint analyses are currently being conducted and preliminary results are available; see below. Group-level longitudinal neuroimaging analyses are in preparation. In terms of behavioral and questionnaire data, processing of single-timepoint data is complete for the cases that have been collected so far, and preliminary cross-sectional and longitudinal analyses have been performed; see below.

**SOW 3. Preliminary data will be analyzed for presentation at professional meetings and to inform new hypotheses as appropriate.**

**Accomplishments:**

- **Quarter # 4:** The number of subjects with complete data was not high enough to prepare abstracts on this data for Spring 2014 conferences. We do anticipate analyzing data for presentation at professional meetings in Fall 2014. To date, we have not generated new hypotheses, since the amount of data that has been collected so far allows only preliminary conclusions.

**Regulatory Approval**

Initial IRB approval was received from McLean Hospital on 26 APR 2012. Continuing reviews were approved on 21 FEB 2013 and 9 DEC 2013.

Initial HRPO approval was received on 13 JUNE 2012.

**Web Development**

After a substantial initial effort to get the web application fully functional and meeting privacy requirements (see previous report), the portal has been essentially running smoothly since that time. Weekly conference call progress meetings with the web developers were phased out in summer 2013, since there were no ongoing problems to trouble-shoot.

**Recruitment and Enrollment**

Recruitment efforts continued throughout Year 2. The following recruitment methods were used:

- Posting advertisements on craigslist.org throughout New England
- Posting online advertisements in a variety of different locations (college and university odd jobs boards, various clinical trial listings (e.g. NAMI, NAMI Mass, partners.org, etc.))
- Radio advertisements on multiple stations
- Newspaper advertisements
- Online radio advertisements (via Pandora)
- Posting flyers around the community and at local area college campuses

In Year 2, 411 potential volunteers passed initial screening questions regarding age, handedness, and medications and were administered the complete telephone screen. Of these, 176 were eligible to come in for a Day 1 screening visit. Of these, 105 participants were brought in for Day 1.

### **Staff Training**

During Year 2 of the study, one postdoctoral fellow left and a new fellow was hired. That fellow was extensively trained in the iCBT program, assessment procedures (e.g., SCID, Hamilton Rating Scale for Depression), and online web-based program platform use, including the interfaces for clinician, patient, and administrator platforms. Two additional research assistants also were hired (in anticipation of pending departures of current research assistants) and have begun training in scheduling potential participants, recruitment, submitting research protocols and answering protocol questions from the IRB, collecting data, consenting subjects, and entering data.

### **Data Acquisition**

We currently have 30 complete datasets, plus 13 that are in process. Of these 43 subjects, 12 are healthy controls and 31 are depressed. All of the time 1 imaging data have been processed and analyzed at the individual subject level, and group-level analyses are ongoing (see below). The time 2 fMRI data has been processed at the individual subject level, but longitudinal analyses are still in development. The diffusion tensor imaging data have been processed for time 1, and time 2 and longitudinal processing is underway.

### **KEY RESEARCH ACCOMPLISHMENTS:**

- 411 potential volunteers were phone screened this year.
- 26 additional participants (8 controls, 18 depressed) completed the entire 10-week program and two assessments.
- 13 more participants (1 control, 12 depressed) are currently progressing through the treatment program.
- 8 potential depressed volunteers are scheduled for upcoming Day 1 screening visits.
- 2 potential healthy controls are scheduled for upcoming Day 1 screening visits.
- Data processing and preliminary analysis is ongoing.

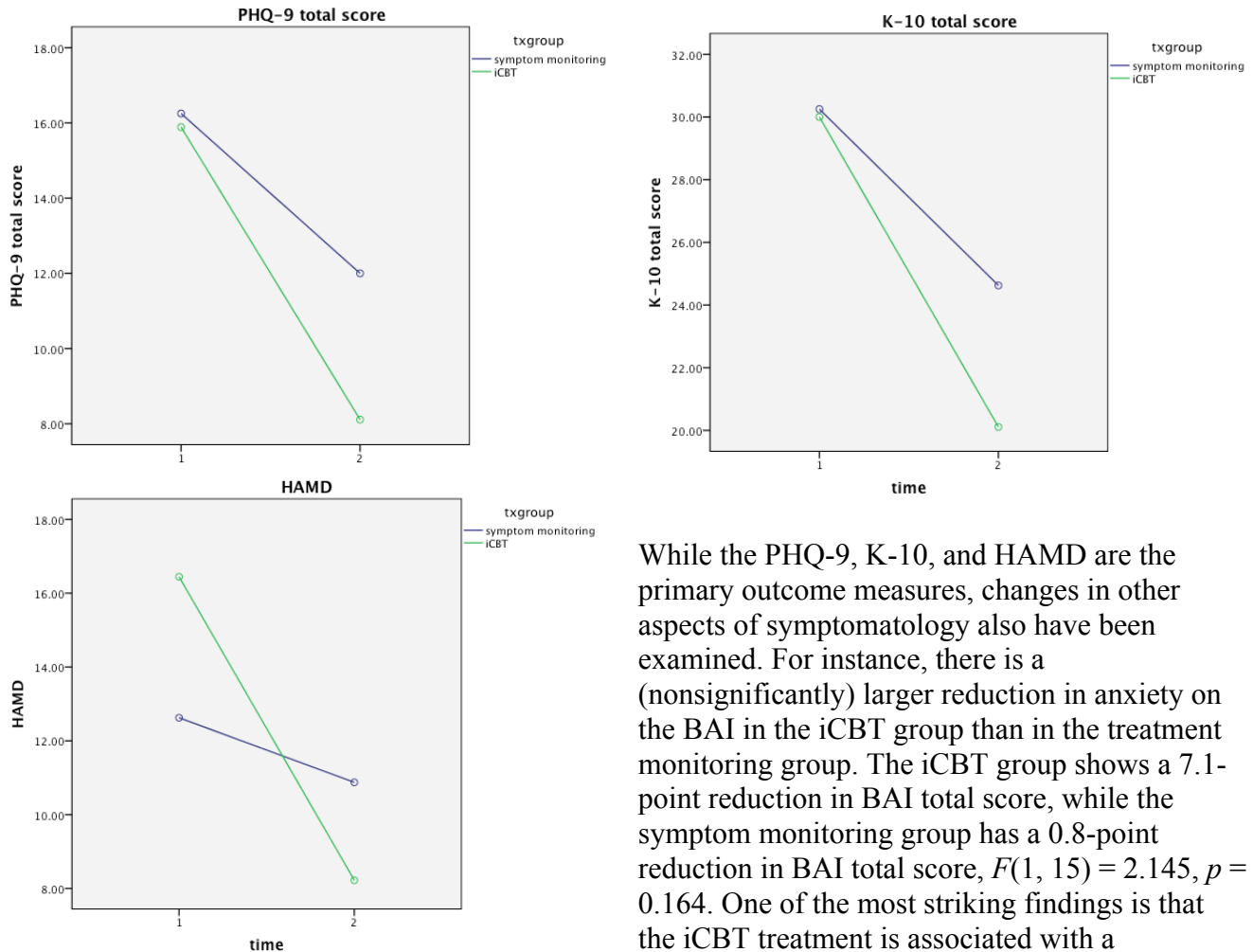
### **REPORTABLE OUTCOMES:**

Data collection is well underway, and recruitment efforts will continue in the coming months. We are able to present preliminary analyses of questionnaire and interview-based behavioral data, performance-based behavioral data, and neuroimaging data. It should be emphasized that these results are considered very preliminary and were conducted on small sample sizes. Nonetheless, they demonstrate the feasibility of the current project and provide preliminary indications that the treatment approach is having measureable effects.

#### **1. Questionnaire and interview-based behavioral data**

As shown in the figures below, on the PHQ-9, the iCBT group ( $n = 8$ ) shows a greater reduction in depressive symptoms than the symptom monitoring group ( $n = 9$ ), though the interaction between time and group does not reach statistical significance due to the limited power at this early stage,  $F(1,15) =$

1.761,  $p = 0.204$ . Similarly, the K-10 total score shows a (nonsignificantly) larger reduction in the iCBT group than in the symptom monitoring group,  $F(1,15) = 1.132$ ,  $p = 0.304$ , as does the HAMD,  $F(1,15) = 2.485$ ,  $p = 0.136$ . Together, these very preliminary findings are encouraging and suggest that the iCBT treatment protocol results in reduction of depressive symptoms, as hypothesized.



While the PHQ-9, K-10, and HAMD are the primary outcome measures, changes in other aspects of symptomatology also have been examined. For instance, there is a (nonsignificantly) larger reduction in anxiety on the BAI in the iCBT group than in the treatment monitoring group. The iCBT group shows a 7.1-point reduction in BAI total score, while the symptom monitoring group has a 0.8-point reduction in BAI total score,  $F(1, 15) = 2.145$ ,  $p = 0.164$ . One of the most striking findings is that the iCBT treatment is associated with a statistically significant reduction on multiple

measures of anhedonia, a core depressive symptom. On the Snaith-Hamilton Pleasure Scale, there was a larger reduction in anhedonia in the iCBT group than in the symptom monitoring group,  $F(1,14) = 7.770$ ,  $p = 0.015$ . Similarly, on the Mood and Anxiety Symptom Questionnaire's anhedonic depression subscale, there was a significantly larger reduction in anhedonic depression in the iCBT group than in the symptom monitoring group,  $F(1,15) = 6.379$ ,  $p = 0.023$ . These results support the impression that the iCBT treatment is effective in reducing depressive symptomatology and associated features.

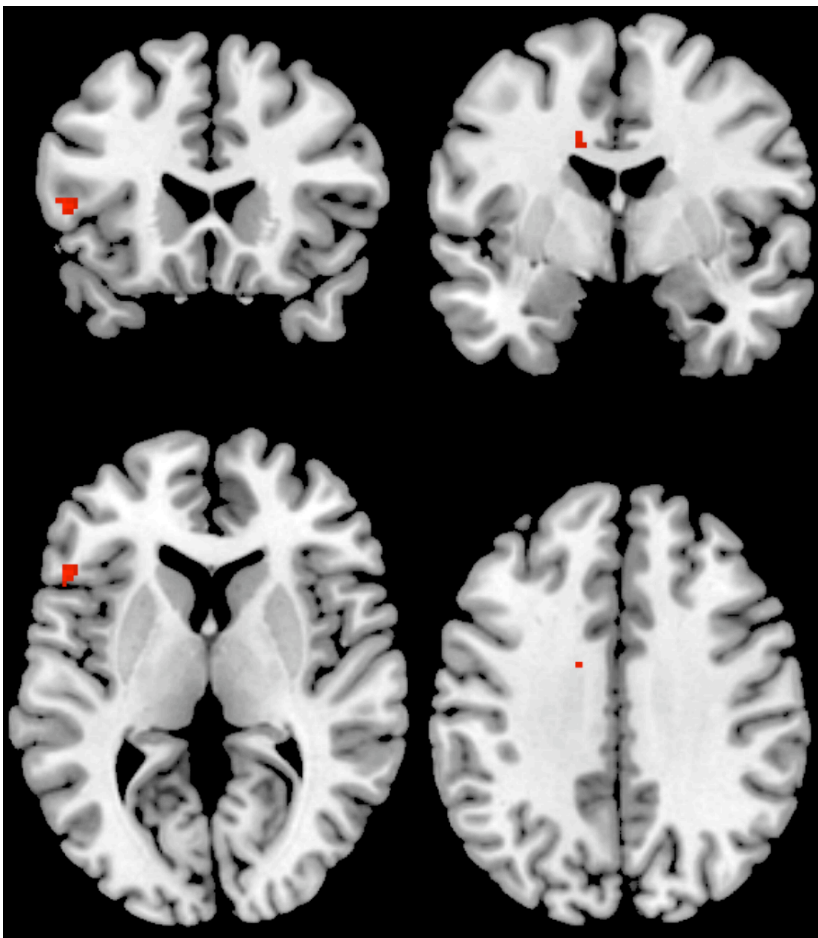
## 2. Performance-based behavioral data

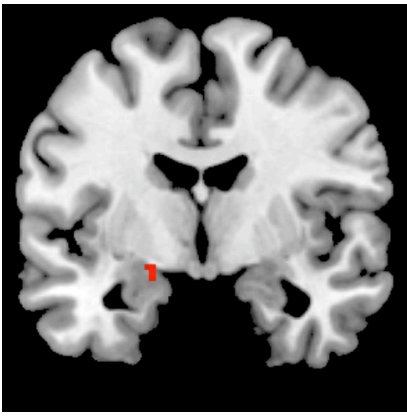
Within the depressed group, we examined longitudinal changes in behavioral performance on the Eriksen flanker task, a measure of aspects of executive functioning including response inhibition and sensitivity to cognitive interference. Compared to the symptom monitoring group, individuals in the iCBT group showed a significant reduction in cognitive interference (e.g., less discrepancy between incongruent and congruent reaction times to correct trials),  $F(1,12) = 5.019$ ,  $p = 0.045$ . This result suggests that in addition to changing symptom reports, as described above, the iCBT treatment may be associated with changes in brain networks supporting executive functioning processes.

### 3. Neuroimaging data: fMRI

Preliminary single timepoint analysis of two fMRI tasks has been conducted using SPM8. Preprocessing steps included realignment and unwarping, slice-timing correction (if necessary), coregistration to the structural imaging data, segmentation, normalization, and smoothing. The Artifact Detection and Removal Tool (ART) program was used to create regressors to statistically remove the effects of images with excessive subject motion or spikes in global signal intensity. As stressed previously, these data are quite preliminary and the analyses are presently limited due to insufficient statistical power. We present these data to demonstrate that the data processing and analysis pipeline is in place and we are currently able to undertake all analyses.

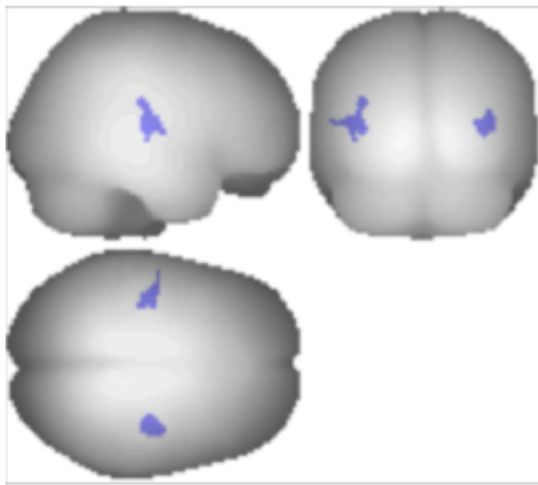
For the Monetary Incentive Delay task, we examined the difference in BOLD response between healthy controls ( $n = 11$ ) and depressed individuals ( $n = 23$ ). Compared to participants with depression, healthy controls had increased activation when viewing a cue indicating that they had an opportunity to earn a reward (versus a neutral cue) in several regions, including the left inferior frontal gyrus (triangular), right supplementary motor area, left precentral gyrus, left inferior parietal lobe, and left middle cingulate gyrus, all  $p < 0.001$  uncorrected,  $k > 15$ . This is consistent with the view that depression involves hyporeactivity to reward cues. (*Below: areas where controls show more activation than participants with depression when viewing reward cues. Left image: left inferior frontal gyrus. Right image: left middle cingulate gyrus*).





For the Emotional Inference Task, we had fewer usable data sets for healthy controls (because of a change in the task design after running the first handful of participants), so we examined data in the depressed participants at time 1 only ( $n = 24$ ). As has previously been demonstrated, depressed participants showed greater left amygdala activation in response to angry faces than in response to neutral faces, even when those faces were purportedly unattended and task-irrelevant,  $p < 0.001$  (uncorrected; image at left).

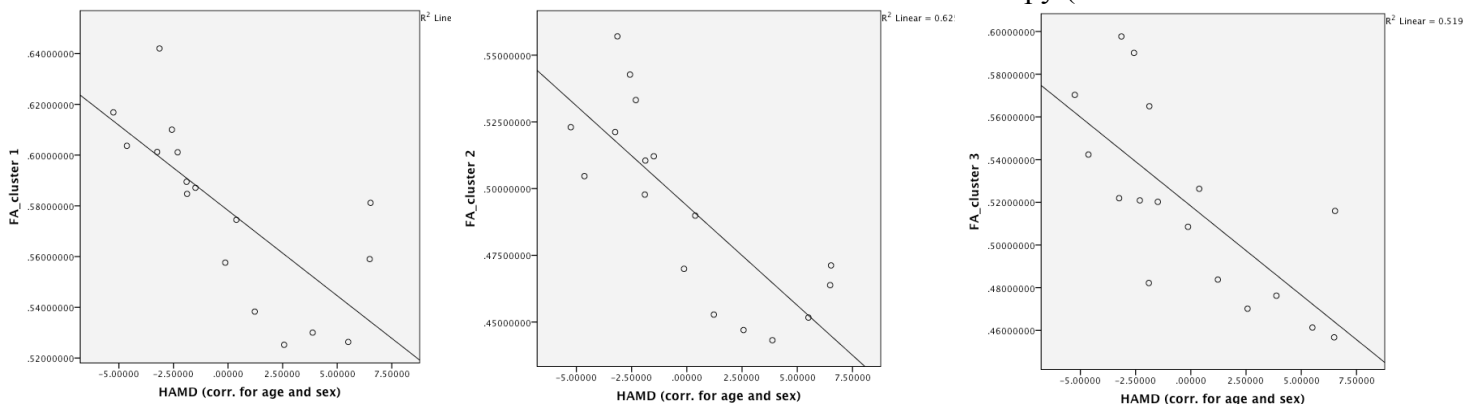
#### 4. Neuroimaging data: resting state connectivity



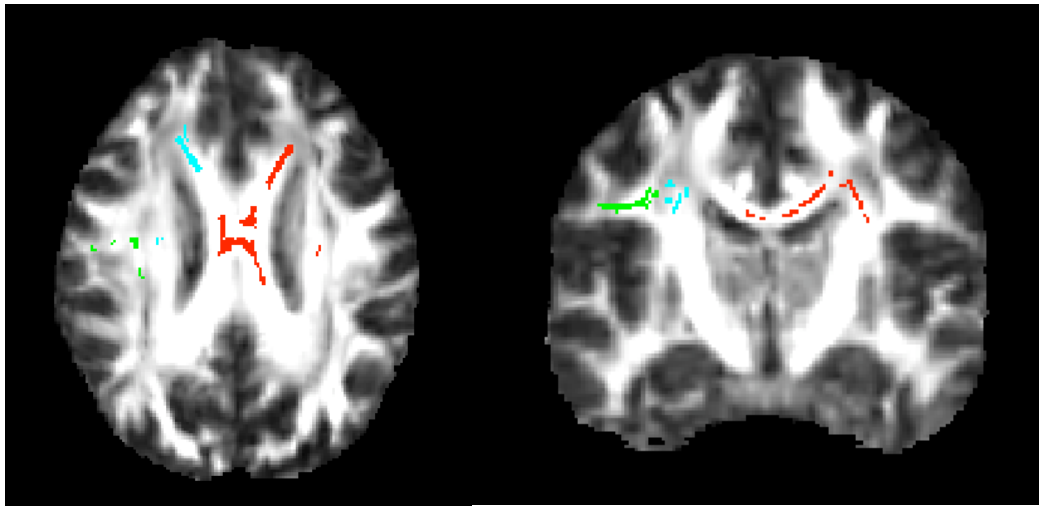
We used SPM8's CONN toolbox to examine differences in resting state functional connectivity between healthy controls ( $n = 11$ ) and participants with depression ( $n = 23$ ) at the first timepoint, after controlling for age and sex. While we are still exploring these results, we do see significant differences in functional connectivity between healthy participants and individuals with depression. For instance, depressed individuals show reduced strength of functional connectivity than healthy control participants between the left middle cingulate gyrus and the insula bilaterally, cluster-wise false discovery rate (FDR) corrected  $p < 0.05$  (see image below).

#### 5. Neuroimaging data: diffusion tensor imaging

We examined diffusion tensor imaging parameters within the depressed subjects at the first timepoint ( $n = 17$  subjects with artifact-free imaging data). Data were pre-processed in FSL, including eddy current correction, rotation of the gradients, brain extraction, and tensor fitting. Groupwise analyses were conducted using tract-based spatial statistics (FSL's TBSS) and nonparametric significance testing (FSL's Randomise). After controlling for age and sex, higher levels of depressive symptoms on the clinician-rated HAMD were associated with lower fractional anisotropy (a measure of white



matter coherence or integrity) in three white matter clusters, at a family-wise error-corrected level of significance ( $p < 0.05$ ).



Cluster 1 (in red) stretches from the left frontal pole to left temporal and parietal cortex, including medial frontal cortex and the anterior cingulate gyrus, and includes fibers from the left anterior corona radiata, forceps minor, uncinate fasciculus, inferior fronto-occipital fasciculus, superior longitudinal fasciculus (temporal part), body of the corpus callosum, superior corona radiata, and corticospinal tract. Cluster 2 (in blue) is a comparable cluster in the right hemisphere. Cluster 3 is a right lateral fronto-parietal cluster, located near the pre- and post-central gyri, including fibers from the superior longitudinal fasciculus. These results suggest that greater levels of depression are associated with altered white matter organization, reflecting potentially reduced white matter integrity in frontal, parietal, and temporal cortices.

As the sample size is increased in the coming year, we plan to conduct mixed repeated measures general linear model analyses to identify changes in these metrics between the treatment and monitored control groups.

## CONCLUSIONS:

The study is progressing as planned. Data collection has continued over the course of the year. Though recruitment has been somewhat slower than anticipated, we have increased our pace substantially over Year 1, and we currently anticipate being able to complete the study on time. Preliminary analyses of the behavioral and neuroimaging data have been completed, and the preliminary findings are encouraging. Data collection and analysis will continue in earnest during the forthcoming year.

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**APPENDICES:**

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## List of Instruments

1. Automatic Thoughts Questionnaire (ATQ)
2. Beck Anxiety Inventory (BAI)
3. Credibility and Expectancy Questionnaire (CEQ)
4. Connor-Davidson Resilience Scale (CD-RISC)
5. Constructive Thinking Inventory (CTI)
6. Dysfunctional Attitude Scale (DAS)
7. Edinburgh Handedness Questionnaire
8. Emotion Regulation Questionnaire (ERQ)
9. Hamilton Rating Scale for Depression (HAM-D)
10. GYN & Menstrual History Questionnaire
11. Information Questionnaire
12. Kessler 10 (K-10)
13. Mood and Anxiety Symptom Questionnaire (MASQ)
14. Positive and Negative Affect Schedule (PANAS)
15. Patient Health Questionnaire (PHQ-9)
16. Structured Clinical Interview for DSM-IV-TR Axis 1 Disorders (SCID)
17. Snaith-Hamilton Pleasure Scale (SHPS)
18. Skills of Cognitive Therapy Questionnaire (SoCT)

**Subject:** \_\_\_\_\_

**Date:** \_\_\_\_\_

### ATQ

Listed below are a variety of thoughts that pop into people's heads. Please read each thought and indicate how frequently, if at all, the thought occurred to you over the last week. Please read each item carefully and fill in the blank with the appropriate number, using the following scale:

- 1 = Not at all
- 2 = Sometimes
- 3 = Moderately often
- 4 = Often
- 5 = All the time

- \_\_\_\_\_ 1. I feel like I'm up against the world.
- \_\_\_\_\_ 2. I'm no good.
- \_\_\_\_\_ 3. Why can't I ever succeed?
- \_\_\_\_\_ 4. No one understands me.
- \_\_\_\_\_ 5. I've let people down.
- \_\_\_\_\_ 6. I don't think I can go on.
- \_\_\_\_\_ 7. I wish I were a better person.
- \_\_\_\_\_ 8. I'm so weak.
- \_\_\_\_\_ 9. My life's not going the way I want it to.
- \_\_\_\_\_ 10. I'm so disappointed in myself.
- \_\_\_\_\_ 11. Nothing feels good anymore.
- \_\_\_\_\_ 12. I can't stand this anymore.
- \_\_\_\_\_ 13. I can't get started.
- \_\_\_\_\_ 14. What's wrong with me?
- \_\_\_\_\_ 15. I wish I were somewhere else.
- \_\_\_\_\_ 16. I can't get things together.
- \_\_\_\_\_ 17. I hate myself.
- \_\_\_\_\_ 18. I'm worthless.
- \_\_\_\_\_ 19. I wish I could just disappear.
- \_\_\_\_\_ 20. What's the matter with me?
- \_\_\_\_\_ 21. I'm a loser.
- \_\_\_\_\_ 22. My life is a mess.
- \_\_\_\_\_ 23. I'm a failure.
- \_\_\_\_\_ 24. I'll never make it.
- \_\_\_\_\_ 25. I feel so helpless.
- \_\_\_\_\_ 26. Something has to change.
- \_\_\_\_\_ 27. There must be something wrong with me.
- \_\_\_\_\_ 28. My future is bleak.
- \_\_\_\_\_ 29. It's just not worth it.
- \_\_\_\_\_ 30. I can't finish anything.

Subject ID: \_\_\_\_\_

### Beck Anxiety Inventory

Below is a list of common symptoms of anxiety. Please read each item in the list carefully. Indicate how much you have been bothered by each symptom during the PAST WEEK, INCLUDING TODAY by placing an X in the corresponding space in the column next to each symptom.

Symptom	Not at all	Mildly - It did not bother me	Moderately – It was very unpleasant but I could stand it	Severely – I could barely stand it
Numbness or tingling				
Feeling hot				
Wobbliness in legs				
Unable to relax				
Fear of the worst happening				
Dizzy or lightheaded				
Heart pounding or racing				
Unsteady				
Terrified				
Nervous				
Feelings of choking				
Hands trembling				
Shaky				
Fear of losing control				
Difficulty breathing				
Fear of dying				
Scared				
Indigestion or discomfort in abdomen				
Faint				
Face flushed				
Sweating (not due to heat)				

## Connor-Davidson Resilience Scale 25 (CD-RISC-25)

initials  ID#  date  visit  age

*For each item, please mark an "x" in the box below that best indicates how much you agree with the following statements as they apply to you over the last **month**. If a particular situation has not occurred recently, answer according to how you think you would have felt.*

	not true at all (0)	rarely true (1)	sometimes true (2)	often true (3)	true nearly all the time (4)
1. I am able to adapt when changes occur.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2. I have at least one close and secure relationship that helps me when I am stressed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3. When there are no clear solutions to my problems, sometimes fate or God can help.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4. I can deal with whatever comes my way.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5. Past successes give me confidence in dealing with new challenges and difficulties.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6. I try to see the humorous side of things when I am faced with problems.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7. Having to cope with stress can make me stronger.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8. I tend to bounce back after illness, injury, or other hardships.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
9. Good or bad, I believe that most things happen for a reason.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10. I give my best effort no matter what the outcome may be.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11. I believe I can achieve my goals, even if there are obstacles.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12. Even when things look hopeless, I don't give up.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13. During times of stress/crisis, I know where to turn for help.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. Under pressure, I stay focused and think clearly.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15. I prefer to take the lead in solving problems rather than letting others make all the decisions.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. I am not easily discouraged by failure.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17. I think of myself as a strong person when dealing with life's challenges and difficulties.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
18. I can make unpopular or difficult decisions that affect other people, if it is necessary.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
19. I am able to handle unpleasant or painful feelings like sadness, fear, and anger.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
20. In dealing with life's problems, sometimes you have to act on a hunch without knowing why.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
21. I have a strong sense of purpose in life.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
22. I feel in control of my life.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
23. I like challenges.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
24. I work to attain my goals no matter what roadblocks I encounter along the way.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
25. I take pride in my achievements.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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09-2011

Participant #: \_\_\_\_\_



Date: \_\_\_\_\_

### Therapy evaluation form

We would like you to indicate below how much you believe, *right now*, that the treatment you are receiving will help to reduce your depression. Belief usually has two aspects to it: (1) what one *thinks* will happen and (2) what one *feels* will happen. Sometimes these are similar; sometimes they are different. Please answer the questions below. In the first set, answer in terms of what you *think*. In the second set answer in terms of what you really and truly *feel*. Please read the questions carefully and be as honest as possible in your responses.

#### Set I

1. At this point, how logical does the treatment offered to you seem?

1	2	3	4	5	6	7	8	9
not at all logical			somewhat logical				very logical	

2. At this point, how successfully do you think this treatment will be at improving your symptoms?

1	2	3	4	5	6	7	8	9
not at all useful			somewhat useful				very useful	

3. How confident would you be in recommending this treatment to a friend who experiences similar problems?

1	2	3	4	5	6	7	8	9
not at all confident			somewhat confident				very confident	

4. By the end of the treatment, how much improvement in your symptoms do you think will occur?

0%    10%    20%    30%    40%    50%    60%    70%    80%    90%    100%

#### Set II

For this set, close your eyes for a few moments, and try to identify what you really *feel* about the treatment and its likely success. Then answer the following questions.

1. At this point, how much do you really *feel* that this treatment will help you to reduce your symptoms?

1	2	3	4	5	6	7	8	9
not at all			somewhat				very much	

2. By the end of the treatment, how much improvement in your symptoms do you really *feel* will occur?

0%    10%    20%    30%    40%    50%    60%    70%    80%    90%    100%

Participant #: \_\_\_\_\_

Date: \_\_\_\_\_

## Symptom Monitoring Program Evaluation Form

We would like you to indicate below how much you believe, *right now*, that the Symptom Monitoring Program will help to reduce your depression. Belief usually has two aspects to it: (1) what one *thinks* will happen and (2) what one *feels* will happen. Sometimes these are similar; sometimes they are different. Please answer the questions below. In the first set, answer in terms of what you *think*. In the second set answer in terms of what you really and truly *feel*. Please read the questions carefully and be as honest as possible in your responses.

### Set I

1. At this point, how logical does the program offered to you seem?

1	2	3	4	5	6	7	8	9
not at all logical			somewhat logical				very logical	

2. At this point, how successfully do you think this program will be at improving your symptoms?

1	2	3	4	5	6	7	8	9
not at all useful			somewhat useful				very useful	

3. How confident would you be in recommending this program to a friend who experiences similar problems?

1	2	3	4	5	6	7	8	9
not at all confident			somewhat confident				very confident	

4. By the end of the program, how much improvement in your symptoms do you think will occur?

0%    10%    20%    30%    40%    50%    60%    70%    80%    90%    100%

### Set II

For this set, close your eyes for a few moments, and try to identify what you really *feel* about the Symptom Monitoring Program and its likely success. Then answer the following questions.

1. At this point, how much do you really *feel* that this program will help you to reduce your symptoms?

1	2	3	4	5	6	7	8	9
not at all				somewhat				very much

2. By the end of the program, how much improvement in your symptoms do you really *feel* will occur?

0%    10%    20%    30%    40%    50%    60%    70%    80%    90%    100%

Name _____	Gender <input type="radio"/> Male <input type="radio"/> Female
Client ID (optional) _____	Today's Date _____ Mo. / Day / Yr.



## Questionnaire

by Seymour Epstein, PhD

### Instructions:

Please enter your name, gender, client ID (optional), and the date in the spaces provided at the top of this page.

To answer each statement, fill in ●, make a check ✓, or make a mark ✗ in the circle that indicates your answer. Please mark your answer directly on this booklet. For example, if you believe that the statement “two plus two equals four” is definitely true, you would mark your answer in the following way:

	Definitely False	Mostly False	Undecided or Equally False and True	Mostly True	Definitely True
106. Two plus two equals four.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>

Please rate all items and mark only one response for each item. If you wish to change a response, please erase your first answer, and then mark the correct circle. Be sure that your first answer is erased completely. If you cannot erase your first answer, write NO over the incorrect answer and mark the correct answer.

This questionnaire contains some “silly” items, such as “I have never seen anyone with blue eyes.” The purpose of these items is to check whether people have been careless or lost their place. Please answer these items correctly. The questionnaire also contains items that check whether people have made themselves look too good. If you just select the best answers instead of answering honestly, your test will not be valid. Do not worry about any one item, because no single item is very important. The best way to take this test is to respond honestly and rapidly.

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	Definitely False	Mostly False	Undecided or Equally False and True	Mostly True	Definitely True
1. I believe almost all people are basically good at heart.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. I sometimes think that if I want something to happen too badly, it will keep it from happening.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. When I have a lot of work to do by a deadline, I waste a lot of time worrying about it instead of just doing it.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. I believe some people have the ability to read other people's thoughts.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. When something good happens to me, I believe it is likely to be balanced by something bad.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. If I do very well on a test, I realize it is only a single test, and it doesn't make me feel generally competent.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. I believe there are people who can project their thoughts into other people's minds.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. I tend to classify people as either for me or against me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
9. When doing unpleasant chores, I make the best of it by thinking pleasant or interesting thoughts.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. I feel that if people treat you badly, you should treat them the same way.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
11. When I have learned that someone I love loves me, it has made me feel that I am a wonderful person and I can accomplish whatever I want to.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
12. If something good happens to me, I tend to assume it was luck.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
13. When I have a very frightening experience, the thought of it is likely to come back to my mind several times.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
14. I don't let little things bother me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
15. Astrology will never explain anything.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
16. I look at challenges not as something to fear, but as an opportunity to test myself and learn.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
17. I think everyone should love his or her parents.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
18. I take failure very hard.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
19. What others think of me bothers me not the least.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
20. I believe if I think terrible thoughts about someone, it can affect that person's well-being.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
21. I spend much more time mentally rehearsing my failures than remembering my successes.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
22. I sometimes get annoyed by people who express unreasonable opinions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



	Definitely False	Mostly False	Undecided or Equally False and True	Mostly True	Definitely True
23. I believe that it is almost always better to come to firm decisions than to compromise.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
24. If someone I know were successful at an important job interview, I would think that he or she would always be able to get a good job.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
25. I am very sensitive to rejection.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
26. I've learned not to hope too much, because what I hope for usually doesn't happen.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
27. Most birds can run faster than they can fly.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
28. I believe that the moon or the stars can affect people's thinking.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
29. If I said something foolish when I spoke up in a group, I would chalk it up to experience and not worry about it.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
30. When faced with a large amount of work to complete, I tell myself I can never get it done and feel like giving up.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
31. When something bad happens to me, I feel that more bad things are likely to follow.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
32. The slightest indication of disapproval gets me upset.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
33. I have never learned to read.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
34. It is so distressing for me to try hard and fail, that I rarely make an all-out effort to do my best.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
35. I believe that most people are only interested in themselves.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
36. I worry a great deal about what other people think of me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
37. When I realize I have made a mistake, I usually take immediate action to correct it.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
38. If I do poorly on an important test, I feel that I am a total failure and that I won't go far in life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
39. I believe that if I wish hard enough for something, it can make it happen.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
40. I believe in trusting my first impressions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
41. When I am faced with a difficult task, I think encouraging thoughts that help me do my best.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
42. I believe that people who wear glasses usually can see better without their glasses.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
43. I believe that some people can make me aware of them just by thinking about me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
44. My mind often drifts to unpleasant events from the past.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



	Definitely False	Mostly False	Undecided or Equally False and True	Mostly True	Definitely True
45. I am the kind of person who takes action rather than just thinks or complains about a situation.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
46. There are two possible answers to every question, a right and a wrong one.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
47. I believe it is best, in most situations, to emphasize the positive side of things.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
48. If someone I know does well on an important test, I feel that he or she is a total success and will go very far in life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
49. I don't worry about things I can do nothing about.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
50. I have washed my hands before eating at least once in the past month.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
51. If I have something unpleasant to do, I try to make the best of it by thinking in positive terms.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
52. If I do well on an important test, I feel that I'm a total success and that I will go far in life.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
53. I believe in ghosts.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
54. I feel like a total failure if I don't achieve the goals I set for myself.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
55. There are two kinds of people in this world, winners and losers.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
56. If I were successful at an important job interview, I would feel very good and think that I would always be able to get a job.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
57. Unless I do a perfect job, I feel like a failure.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
58. When I take an examination, I usually think I did much worse than I actually did.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
59. When something good happens to me, I feel that more good things are likely to follow.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
60. I am tolerant of my mistakes because I feel they are a necessary part of learning.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
61. When unpleasant things happen to me, I don't give them a second thought.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
62. Most people regard me as a tolerant and forgiving person.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
63. If I were rejected at an important job interview, I would feel very low and think that I would never be able to get a good job.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
64. When I do poorly at something, it does not bother me as long as I know I have done my best.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



	Definitely False	Mostly False	Undecided or Equally False and True	Mostly True	Definitely True
65. I tend to take things personally.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
66. I have at least one good luck charm.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
67. I have never seen anyone with blue eyes.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
68. I don't feel that I have to perform exceptionally well in order to consider myself a worthwhile person.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
69. People should try to look happy, no matter what they feel.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
70. I avoid challenges because it hurts too much when I fail.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
71. The only person I can completely trust is myself.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
72. It doesn't bother me when people who know less than I do act superior and give me advice.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
73. I am very sensitive when people make fun of me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
74. Although women sometimes wear pants, they do not wear them, on the average, as often as men.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
75. I have found that talking about successes that I am looking forward to can keep them from happening.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
76. Whenever good things happen to me, I have the feeling that I deserve them.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
77. I think there are many wrong ways to do almost anything, but only one right way.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
78. I spend a lot of time thinking about my mistakes, even if there is nothing I can do about them.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
79. I like to succeed, but I don't take failure as a tragedy.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
80. At times when I've been ill or tired, I have felt like going to bed early.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
81. It is foolish to trust anyone completely because, if you do, you are bound to get hurt.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
82. When I have a lot of important things to take care of, I make a plan and stick to it.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
83. When someone I love has rejected me, it has made me feel that I am inadequate and that I will never accomplish anything.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
84. If you don't eat, you can die.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
85. I tend to dwell more on pleasant than unpleasant incidents from the past.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
86. I believe in good and bad omens.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
87. I am not bothered in the least when people insult me for no good reason.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



	Definitely False	Mostly False	Undecided or Equally False and True	Mostly True	Definitely True
88. When someone I know is loved by a person they love, I feel that they are a wonderful person and can accomplish whatever they want to.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
89. I get so distressed when I notice that I am doing poorly in something that it makes me do worse.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
90. I try to accept people as they are without judging them.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
91. When unpleasant things happen to me, I don't let them prey on my mind.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
92. If I do very poorly on a test, I realize it is only a single test, and it doesn't make me feel generally incompetent.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
93. I believe once a criminal, always a criminal.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
94. I believe there are people who can see into the future.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
95. I believe that anyone who isn't lazy can always find a job.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
96. I find it hard to change my mind once I have made a decision.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
97. I do not believe in any superstitions.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
98. I don't get very distressed over the mistakes of others, but try to deal with them in a constructive way.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
99. When faced with a challenging situation, I try to imagine the best outcome and avoid dwelling on what might go wrong.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
100. I believe that if I do something good, then good things will happen to me.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
101. I believe in flying saucers.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
102. I try to make an all-out effort in most things I do.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
103. I have learned from bitter experience that most people are untrustworthy.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
104. When I am faced with a new situation, I tend to think the worst possible outcome will happen.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
105. When faced with upcoming unpleasant events, I usually carefully think through how I will deal with them.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
106. Two plus two equals four.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
107. There are basically two kinds of people in this world, good and bad.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
108. When something unfortunate happens to me, it reminds me of all the other things wrong in my life, which adds to my unhappiness.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



Participant ID: \_\_\_\_\_

Date: \_\_\_\_\_

### **DAS**

This questionnaire lists different attitudes or beliefs which people sometimes hold. Read each statement carefully and decide how much you agree or disagree with the statement.

For each of the attitudes, indicate to the left of the item the number that best describes how you think. Be sure to choose only one answer for each attitude. Because people are different, there is no right answer or wrong answer to these statements. Your answers are confidential, so please do not put your name on this sheet.

To decide whether a given attitude is typical of your way of looking at things, simply keep in mind what you are like most of the time.

	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>
	<b>totally</b>	<b>agree</b>	<b>agree</b>	<b>neutral</b>	<b>disagree</b>	<b>disagree</b>	<b>totally</b>
	<b>agree</b>	<b>very much</b>	<b>slightly</b>		<b>slightly</b>	<b>very much</b>	<b>disagree</b>
_____	1.						
_____	2.						
_____	3.						
_____	4.						
_____	5.						
_____	6.						
_____	7.						
_____	8.						
_____	9.						
_____	10.						
_____	11.						
_____	12.						
_____	13.						
_____	14.						
_____	15.						
_____	16.						

**PLEASE TURN OVER**

Participant ID: \_\_\_\_\_

Date: \_\_\_\_\_

1	2	3	4	5	6	7
totally	agree	agree	neutral	disagree	disagree	totally
agree	very much	slightly		slightly	very much	disagree

- |       |     |  |
|-------|-----|--|
| _____ | 17. | One can get pleasure from an activity regardless of the end result.                          |
| _____ | 18. | People should have a chance to succeed before doing anything.                                |
| _____ | 19. | My value as a person depends greatly on what others think of me.                             |
| _____ | 20. | If I don't set the highest standards for myself, I am likely to end up a second-rate person. |
| _____ | 21. | If I am to be a worthwhile person, I must be the best in at least one way.                   |
| _____ | 22. | People who have good ideas are better than those who do not.                                 |
| _____ | 23. | I should be upset if I make a mistake.   |
| _____ | 24. | My own opinions of myself are more important than others' opinions of me.                    |
| _____ | 25. | To be a good, moral, worthwhile person, I must help everyone who needs it.                   |
| _____ | 26. | If I ask a question, it makes me look stupid.  |
| _____ | 27. | It is awful to be put down by people important to you.                                       |
| _____ | 28. | If you don't have other people to lean on, you are going to be sad.                          |
| _____ | 29. | I can reach important goals without pushing myself.  |
| _____ | 30. | It is possible for a person to be scolded and not get upset.                                 |
| _____ | 31. | I cannot trust other people because they might be cruel to me.                               |
| _____ | 32. | If others dislike you, you cannot be happy.  |
| _____ | 33. | It is best to give up your own interests in order to please other people.                    |
| _____ | 34. | My happiness depends more on other people than it does on me.                                |
| _____ | 35. | I do not need the approval of other people in order to be happy.                             |
| _____ | 36. | If a person avoids problems, the problems tend to go away.                                   |
| _____ | 37. | I can be happy even if I miss out on many of the good things in life.                        |
| _____ | 38. | What other people think about me is very important.  |
| _____ | 39. | Being alone leads to unhappiness.  |
| _____ | 40. | I can find happiness without being loved by another person.                                  |

## EDINBURGH HANDEDNESS SURVEY

Subject ID#: \_\_\_\_\_

Date: \_\_\_\_\_

Please indicate which hand you prefer to use in the following activities by putting a + in the appropriate column. Where the preference is so strong that you would never try to use the other hand unless absolutely forced to, put ++. If in any case you are really indifferent, put + in both columns.

Some of the activities require both hands. In these cases the part of the task, or object, for which the hand preference is wanted is indicated in brackets.

Please try to answer all the questions, and only leave a blank if you have no experience at all of the object or task.

---

		LEFT	RIGHT
1	Writing		
2	Drawing		
3	Throwing		
4	Scissors		
5	Toothbrush		
6	Knife [without fork]		
7	Spoon		
8	Broom [upper hand]		
9	Striking Match [match]		
10	Opening Box [lid]		

---

Do not write below this line

L.Q.: \_\_\_\_\_

DECILE: \_\_\_\_\_

Subject \_\_\_\_\_

Date \_\_\_\_\_

### ERQ

We would like to ask you some questions about your emotional life, in particular, how you control (that is, regulate and manage) your emotions. The questions below involve two distinct aspects of your emotional life. One is your emotional experience, or what you feel like inside. The other is your emotional expression, or how you show your emotions in the way you talk, gesture, or behave. Although some of the following questions may seem similar to one another, they differ in important ways. For each item, please answer using the following scale:

1-----2-----3-----4-----5-----6-----7  
strongly neutral strongly  
disagree agree

1. \_\_\_\_ When I want to feel more *positive* emotion (such as joy or amusement), I *change what I'm thinking about*.
2. \_\_\_\_ I keep my emotions to myself.
3. \_\_\_\_ When I want to feel less *negative* emotion (such as sadness or anger), I *change what I'm thinking about*.
4. \_\_\_\_ When I am feeling *positive* emotions, I am careful not to express them.
5. \_\_\_\_ When I'm faced with a stressful situation, I make myself *think about it* in a way that helps me stay calm.
6. \_\_\_\_ I control my emotions by *not expressing them*.
7. \_\_\_\_ When I want to feel more *positive* emotion, I *change the way I'm thinking* about the situation.
8. \_\_\_\_ I control my emotions by *changing the way I think* about the situation I'm in.
9. \_\_\_\_ When I am feeling *negative* emotions, I make sure not to express them.
10. \_\_\_\_ When I want to feel less *negative* emotion, I *change the way I'm thinking* about the situation.

University of Pennsylvania Medical Center  
Depression Research Unit

<u>ID Number</u>	<u>Rater</u>	<u>Date</u>		<u>Visit</u>

**Hamilton Rating Scale for Depression (HRSD)**

**OVERVIEW:** I'd like to ask you some questions about the past week.

**1. DEPRESSED MOOD**

What's your mood been like this past week?

DEPRESSED MOOD (sad, hopeless, helpless, worthless)

(0) absent

Have you been feeling down or depressed?

(1) **mild:** these feeling states indicated only on questioning and are not the predominant mood state; feels depressed no more than two days or only intermittently.

Sad? Hopeless?

(2) **moderate:** these feeling states spontaneously reported; feels depressed more days than not (i.e., the predominant mood state).

Have you been crying at all?

(3) **marked:** communicated feeling states non-verbally, i.e., facial expression, posture, voice tendency to weep; some functional impairment.

In the last week, how often have you felt this way (PATIENT'S OWN EQUIVALENT)?  
Every day? All day?

(4) **severe:** patient reports VIRTUALLY ONLY these feeling states in his spontaneous verbal and non-verbal communication; severe functional impairment.

**2. FEELINGS OF GUILT**

Have you been especially critical of yourself this past week, feeling you've done things wrong, or let others down? IF YES: What have your thoughts been?

FEELINGS OF GUILT:

(0) absent

Have you been feeling guilty about anything that you've done or not done?

(1) self-reproach (whether or not there has been wrongdoing), feels she/he has let people down

Have you thought that you've brought your troubles on yourself in some way?

(2) ideas of guilt spontaneously expressed.

How often have you had these thoughts? Do these thoughts ever repeat themselves? How much have they bothered you? Are these thoughts uncontrollable? Do these thoughts ever sound like they come from the outside, like hearing someone else's voice? If so, whose voice is it? Do you think you're being punished for something you did?

(3) Present illness is a punishment; or repeated intrusive guilty thoughts (i.e., ruminations) over past errors or sinful deeds.

(4) hears accusatory or denunciatory voices and/or experiences threatening visual hallucinations; delusions of guilt.

**3. SUICIDE**

This past week, have you had any thoughts that life is not worth living, or that you'd be better off dead?

What about having thoughts of hurting or even killing yourself?

IF YES: What have you thought about?  
Have you actually done anything to hurt yourself?

SUICIDE:

- (0) absent
- (1) feels life is not worth living
- (2) wishes she/he were dead or thoughts of possible death to self (other than suicidal)
- (3) suicidal ideas or specific suicide plan
- (4) attempts at suicide

**SUM OF ITEMS 1, 2, AND 3:** \_\_\_\_\_

## “Typical” Sleep Items

### 4. INSOMNIA EARLY

How have you been sleeping over the last week?

Have you had any trouble falling asleep at the beginning of the night?

(Right after you go to bed, how long has it been taking you to fall asleep?)

How many nights this week have you had trouble falling asleep?

### 5. INSOMNIA MIDDLE

During the past week, have you been waking up in the middle of the night? If yes, how many nights? How often do you awaken?

Do you get out of bed? What do you do? (Only to go to the bathroom?)

When you get back in bed, are you able to fall right back asleep?

Have you felt your sleeping has been restless or disturbed some nights?

### 6. INSOMNIA LATE

What time have you been waking up in the morning for the last time, this past week?

Is this earlier than you would like?

IF EARLY: Is that with an alarm clock, or do you just wake up by yourself?

### INSOMNIA EARLY:

- (0) no difficulty falling asleep
- (1) **mild and/or infrequent:** less than 30 minutes most nights, or if longer no more than twice during the past week.
- (2) **definite and severe,** more than 30 minutes on most nights.

### INSOMNIA MIDDLE:

- (0) no difficulty
- (1) **mild/ infrequent:** complains of being restless and disturbed some nights
- (2) **definite and severe:** waking most every night (except for purposes of voiding); difficulty getting back to sleep (i.e., more than 30 minutes most nights) or multiple brief awakenings each night.

### INSOMNIA LATE:

- (0) no difficulty
- (1) **mild, infrequent:** wakes earlier than usual some mornings (i.e., 30 minutes earlier than desired) or infrequently (i.e., 1 or 2 mornings).
- (2) **obvious and severe:** wakes 1-3 hours before usual time and is unable to sleep again.

*Sum of items 4, 5, and 6:* \_\_\_\_\_

### Atypical Sleep Items

#### 4A. HYPERSOMNIA (Retires earlier and/or rises later)

When do you go to bed?

HYPERSOMNIA (Retires earlier and/or rises later than usual. This does not necessarily mean that the patient sleeps longer, just spends more time in bed.)

Is this earlier than usual (when not depressed) for you?

(0) absent

If yes, how much earlier? (Weekends?)

(1) **mild;** less than 60 minutes

When do you get up?

(2) **obvious and definite;** goes to bed more than 60 minutes earlier on most nights.

Is this later when not depressed? (Weekends?)

#### 5A. HYPERSOMNIA (Oversleeping, sleeping more than usual)

Compare sleep length to euthymic and not to hypomanic sleep length.

HYPERSOMNIA (Oversleeping, sleeping more than usual)

If this cannot be established, use 8 hours.

Oversleeping - Have you been sleeping more than usual this past week?

(0) absent

If yes, How much more?

(1) **mild or infrequent:** Oversleeps less than 60 minutes.

If no, what about weekends?

(2) **obvious and definite:** Oversleeps more than 60 minutes most days.

Sleep length used: (Circle one)

euthymic

8 hours

#### 6A. HYPERSOMNIA (Napping - excessive daytime sleepiness)

Do you take naps?

HYPERSOMNIA (Napping. Excessive daytime sleepiness.)

If yes, when? How often? How long?

(0) absent

If no, How about weekends?

(1) **mild or infrequent:** naps less than 30 minutes.

(2) **obvious and definite:** sleeps more than 30 minutes most days during naps.

*Sum of items 4A, 5A, and 6A:*



**SLEEP DISRUPTION TOTAL SCORE:**

(Enter the sum of items 4, 5, and 6;  
*OR* the sum of items 4A, 5A, and 6A,

whichever is greater)

## 7. WORK AND ACTIVITIES

How have you been spending your time this past week (when not at work)?

Do you have your normal interest in doing (THOSE THINGS), or do you feel you have to push yourself to do them?

Are you less interested in things like your job, spending time with family, friends or hobbies?

Have you decreased or even stopped doing anything?

IF WORKING: Do you feel you are less efficient or effective at work?

Have you been able to have any fun? How has your ability to feel enjoyment or pleasure been?

## 8. RETARDATION

RATING BASED ON OBSERVATION  
DURING INTERVIEW

## 9. AGITATION

RATING BASED ON OBSERVATION  
DURING INTERVIEW

### WORK AND ACTIVITIES:

- (0) no difficulty
- (1) thoughts and feelings of incapacity, or disinterest related to activities, work or hobbies; mild and/or intermittent
- (2) decreased interest in activity, hobbies or work most days - either directly reported by the patient or indirect in listlessness, indecision and vacillation (feels he/she has to push self to work or engage in activities)
- (3) definite decrease in actual time spent in activities or decreased productivity due to depression.
- (4) Complete loss of interest. Anhedonia. Stopped working or engaging in routine activities because of depression.

RETARDATION (slowness of thought and speech; impaired ability to concentrate; decreased spontaneous motor activity; postural change - slumped, stooped):

- (0) normal speech and thought
- (1) **mild:** slight flattening of affect, fixity of expression, or minimal slowing of speech and/or spontaneous movements.
- (2) **moderate:** monotonous voice, delayed in answering questions, tends to sit motionless.
- (3) **severe:** retardation prolongs interview to a marked degree, slowness of movement and gait with diminished associated movement.
- (4) **extreme:** depressive stupor, interview impossible.

AGITATION (restlessness, repetitive "nervous" mannerisms, frequent posture changes, difficulty sitting still):

- (0) none
- (1) **mild:** fidgety at interview, clenching fists or side of chair, kicking feet.
- (2) **moderate:** wringing hands, biting lips, pulling hair, gesturing with arms, picking at hands and clothes.
- (3) **severe:** includes features of (2). In addition, cannot stay in chair during interview.

- (4) **extreme:** hand-wringing, nail biting, hair-pulling, biting of lips, almost continual pacing. Patient looks bewildered and distraught.

**SUM OF ITEMS 7, 8, AND 9:** \_\_\_\_\_

## 10. ANXIETY PSYCHIC

Have you been feeling especially anxious, nervous, tense or irritable, frightened and/or apprehensive this past week?

Have you had a hard time relaxing this past week?

Have you been worrying a lot about little unimportant things, things you wouldn't ordinarily worry about?

IF YES: Like what, for example?

## 11. ANXIETY SOMATIC

In this past week, have you had any of these physical symptoms? READ EACH LIST TO THE RIGHT, PAUSING AFTER EACH THREE FOR REPLY

How much have these things been bothering you this past week? (How bad have they gotten? How much of the time, or how often, have you had them?)

**DO NOT RATE IF SYMPTOMS ARE ABSOLUTELY AND UNEQUIVOCALLY RELATED TO A TRANSIENT MEDICAL PHENOMENON (I.E., MENSTRUATION, AN INFECTION, OR ACUTE COCAINE INTOXICATION)**

## ANXIETY PSYCHIC:

- (0) no difficulty
- (1) **mild**, i.e., intermittent tension or irritability
- (2) **moderate**: worried, tense, anxious or nervous more often than not; not incapacitated
- (3) **severe**: psychic anxiety symptoms most of the time; anxiety is the predominant mood state, incapacitated by psychic anxiety symptoms.
- (4) **fears expressed without questioning**

ANXIETY SOMATIC - physiologic concomitants of anxiety, such as: dry mouth, gas, indigestion; diarrhea, cramps, belching; constipation, heart palpitations, headaches; dizziness, hyperventilating, sighing; having to urinate frequently, sweating, trouble swallowing

- (0) absent
- (1) **doubtful or infrequent**
- (2) **mild**: reports at least several symptoms, which are not marked or incapacitating
- (3) **moderate**: greater number and frequency of symptoms than (2). Accompanied by more severe subjective distress with some impairment of normal functioning
- (4) **severe**: symptoms are numerous, persistent and incapacitating much of the time

## 12. APPETITE DECREASE

How has your appetite been this past week?

(What about compared to your usual appetite?)

Have you had to force yourself to eat?

Have other people had to urge you to eat?

## DECREASED APPETITE:

- (0) none
- (1) decreased appetite but eating without encouragement
- (2) definite decrease; difficulty eating without urging

## 12A. APPETITE INCREASE

Are you definitely eating more than usual?

Have you noticed cravings for specific foods, such as sweets or chocolates?

INCREASED APPETITE (Change in appetite marked by increased food intake.)

- (0) absent
- (1) **mild**: minimal or slight increase in appetite; food craving

- (2) **obvious:** definite and marked increase in food intake.

**APPETITE DISTURBANCE SCORE:** \_\_\_\_\_  
(Enter the score for 12 OR 12A, whichever is greater)

**SUM OF ITEMS 10 AND 11, PLUS APPETITE DISTURBANCE SCORE:** \_\_\_\_\_

### 13. ENERGY

How has your energy been this past week?

Do you tire more easily than usual? If yes how much of the time?  
Have you felt fatigued?

Do you feel heaviness in your limbs or other parts of your body? How often do you feel this way? How much has it affected you?

### 14. LIBIDO

How has your interest in sex been this week? (I'm not asking you about performance, but about your interest in sex - how much you think about it.)

Has there been any change in your interest in sex (from when you were not depressed?)  
Is it something you've thought much about?

### 15. HYPOCHONDRIASIS

In the last week, how much have your thoughts been focused on your physical health or how your body is working (compared to your normal thinking)?

Do you complain much about how you feel physically?

Have you found yourself asking for help with things you could really do your self?

IF YES: Like what, for example? How often has that happened?

ENERGY:

- (0) none
- (1) mild, intermittent, infrequent. Loss of energy, and fatigue.
- (2) definitely present most every day; subjectively experienced as severe

SEXUAL SYMPTOMS (such as loss of libido):

- (0) absent
- (1) **mild**: some decrease in libido, although not complete or persistent
- (2) **severe**: complete absence/loss of sexual desire

HYPOCHONDRIASIS:

- (0) absent
- (1) **mild**: some preoccupation with bodily functions and physical symptoms
- (2) **moderate**: much attention given to physical symptoms. Patient expresses thoughts of organic disease with a tendency to somaticize.
- (3) **severe**: convictions of organic disease to explain present condition, e.g. brain tumor
- (4) **extreme**: hypochondriacal delusions often with guilty association, e.g. rotting inside

---

### 16. LOSS OF WEIGHT

Have you lost any weight since this (DEPRESSION) began? IF YES: How much?

IF NOT SURE: Do you think your clothes are any looser on you?

LOSS OF WEIGHT:

- (0) no weight loss or weight loss associated with dieting
- (1) probable weight loss associated with present illness
- (2) definite (according to patient) weight loss, at least 5 lbs. (2.2 kg) during the episode.

---

### 16A. WEIGHT GAIN

Have you gained any weight since this (DEPRESSION) began? IF YES: How much?

WEIGHT GAIN:

- (0) no weight gain

IF NOT SURE: Do you think your clothes are any tighter on you?

- (1) probable weight gain associated with present illness
- (2) definite (according to patient) weight gain, at least 5 lbs. (2.2 kg) during the episode.

**WEIGHT CHANGE SCORE:** \_\_\_\_\_  
(Enter the score for 16 OR 16A, whichever is greater)

**SUM OF ITEMS 13, 14, AND 15, PLUS WEIGHT CHANGE SCORE:** \_\_\_\_\_

## 17. INSIGHT

### RATING BASED ON OBSERVATION

**Optional probe:** What do you think the source of your current problem is?

### INSIGHT:

- (0) acknowledges being depressed and ill  
OR, if appropriate, not currently depressed
- (1) acknowledges illness but attributes cause to bad food, climate, overwork, virus, need for rest, etc.
- (2) denies being ill at all; despite having definite symptoms

## TOTAL 17-ITEM ADJUSTED HAMILTON DEPRESSION SCORE:

(Add the totals at the *bottom* of pages 1, 3, 4, 5, and 6, *PLUS* Item 17)

## 18. DIURNAL VARIATION

This past week have you been feeling better or worse at any particular time of day - morning or evening?

### DIURNAL VARIATION:

When present, mark the severity and frequency of the mood variation (if NO diurnal variation, mark NONE):

IF VARIATION: How much worse do you feel in the (MORNING OR EVENING)?

- (0) no variation OR currently not depressed

- (1) **mild variation**

How many days have you noticed a difference?

- (2) **severe variation**

IF UNSURE: A little bit worse or a lot worse?

NOTE WHETHER SYMPTOMS ARE WORSE IN THE MORNING OR EVENING:

\_\_\_\_\_ worse in the A.M.

\_\_\_\_\_ worse in the P.M.

## 19. DEPERSONALIZATION AND DEREALIZATION

In the past week, have you ever suddenly had the feeling that everything is unreal, or you're in a dream or cut off from other people in some strange way? Any spacey feelings?

DEPERSONALIZATION AND DEREALIZATION (such as feelings of unreality and nihilistic ideas):

- (0) absent

- (1) mild

- (2) moderate

- (3) severe

- (4) incapacitating

IF YES: How bad has that been? How often this week has that happened?

## 20. PARANOID SYMPTOMS

This past week, have you felt that anyone was trying to give you a hard time or hurt you?

### PARANOID SYMPTOMS:



IF NO: What about talking about you behind your back?

IF YES: Tell me about that.

- (0) none
- (1) mildly suspicious
- (2) more persistent and/or frequent ideas of reference
- (3) delusions of reference and persecution

## 21. OBSESSIONAL AND COMPULSIVE SYMPTOMS

In the past week, have there been things you've had to do over and over again, like checking the locks on the doors several times, or washing your hands over and over?

IF YES: Can you give me an example?

Have you had any thoughts that don't make any sense to you, but that keep running over and over in your mind? IF YES: Can you give me an example?

## 22. HELPLESSNESS

Have you had any helpless feelings in the past week?

Do you feel able or capable to solve your problems?

Have you needed someone to guide or reassure you to get things done?

IF SO: Has someone had to actually help you get things done?

## 23. HOPELESSNESS

In the last week have you felt discouraged or pessimistic about the future?

Do you ever doubt that things will improve?

IF YES: How much of the time is this a problem? Do others try to encourage you? Does it help?

## 24. WORTHLESSNESS

In the past week, what has your opinion of yourself, compared to others, been like?

Have you felt that you aren't as good as most other people?

IF YES: How much of the time have you felt like this?

## OBSESSIONAL AND COMPULSIVE SYMPTOMS:

- (0) absent
- (1) mild or intermittent symptoms
- (2) severe and/or incapacitating symptoms

## HELPLESSNESS:

- (0) absent
- (1) **mild or intermittent**: subjective feelings elicited only by inquiry
- (2) **moderate**: patient volunteers his/her helpless feelings
- (3) **severe**: REQUIRES urging, guidance and reassurance to accomplish regular chores or personal hygiene
- (4) **incapacitating**: REQUIRES physical assistance for dress, grooming, eating, bedside tasks, personal hygiene

## HOPELESSNESS:

- (0) absent
- (1) intermittently doubts that things will improve but can be reassured
- (2) more generally feels hopeless but accepts reassurance
- (3) expresses feelings of discouragement, despair, pessimism about future, which cannot be dispelled by reassurance
- (4) spontaneously and inappropriately perseverates, "I'll never get well" or the like. Nihilistic delusions.

## WORTHLESSNESS:

- (0) absent
- (1) Indicates **mild** feelings of worthlessness (low self-esteem) e.g., a little down on himself.
- (2) **moderate**: Indicates moderate feelings of worthlessness (loss of self-esteem) e.g., feels very bad about himself.

Have you felt completely worthless?

- (3) **marked**: Different from (2) by degree: patient feels that he is "no good", "inferior", etc. or describes himself as worthless.
- (4) **severe**: Delusional notions of worthlessness  
(e.g., "I am a heap of garbage" or its equivalent).

GYN/Menstrual History

Subject: \_\_\_\_\_ Date: \_\_\_\_\_

1. Have you ever been pregnant?

\_\_\_ No

\_\_\_ Yes

2. How many times have you been pregnant including miscarriages or abortions? |\_\_\_|

3. Have you ever used birth control pills, or progesterone?

\_\_\_ No

\_\_\_ Yes (Complete table below)

What was the name of the hormone you used?	What was this hormone used for?	At what age did you begin using this hormone?	How many months did you use this hormone?
_____	___	___	___
_____	___	___	___
_____	___	___	___
_____	___	___	___
_____	___	___	___
_____	___	___	___

4. Have you ever had any of the following gynecological conditions?

Polycystic Ovary Disease (Stein-Leventhal Syndrome) \_\_\_ No \_\_\_ Yes

Hirsutism (excessive hair growth, especially on face) \_\_\_ No \_\_\_ Yes

Amenorrhea ( $\geq 3$  months without a period when not pregnant) \_\_\_ No \_\_\_ Yes

Galactorrhea (Breast milk production when not pregnant or lactating) \_\_\_ No \_\_\_ Yes

5. When was your Last Menstrual Period: \_\_\_ / \_\_\_ / \_\_\_  
MM DD YY

6. Are your menstrual cycles regular now? In other words, is the onset of each period generally predictable within 5 days?

\_\_\_ No

\_\_\_ Yes

7. On average, how regularly do you have a period?

\_\_\_ Less than every 25 days

\_\_\_ Between 25-35 days

\_\_\_ More than every 35 days

8. How many days does your period usually flow? |\_\_\_| days

9. At what age did you have your first menstrual period? |\_\_\_| years

## Information Questionnaire

Subject #: \_\_\_\_\_ Date: \_\_\_\_\_

DATE OF BIRTH \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_  
month day year

AGE ..... years

HEIGHT ..... ft/inches

WEIGHT ..... lbs

SEX ..... Male Female

RIGHT or LEFT-HANDED? ..... RIGHT LEFT BOTH/NEITHER

How far did you go in school?

<9<sup>th</sup>; 9<sup>th</sup>; 10<sup>th</sup>; 11<sup>th</sup>; HS Grad; 2yr College Degree; Some College ( 1 2 3 4 years);  
College Grad; Some Grad School; Masters, Doctorate

Do you have any problems with reading? NO YES \_\_\_\_\_

What is your primary language (what do you speak at home most of the time)?

English Spanish Other \_\_\_\_\_

### CAFFEINE USE

Did you have any caffeine containing products today? If so, how much? \_\_\_\_\_

On average, how many cups of caffeinated coffee do you drink per day? \_\_\_\_\_

On average, how many cups of caffeinated tea do you drink per day? \_\_\_\_\_

On average, how many cans of caffeinated soda do you drink per day? \_\_\_\_\_

On average, how many caffeinated sports drinks do you drink per day? \_\_\_\_\_ (brand)

Do you use any other caffeinated products, such as Vivarin? YES NO

If YES, WHAT? \_\_\_\_\_ How much? \_\_\_\_\_ How often? \_\_\_\_\_

### NICOTINE USE

Do you smoke cigarettes? YES NO

If YES, about how many cigarettes do you smoke per day? \_\_\_\_\_

How long have you been smoking? \_\_\_\_\_ years \_\_\_\_\_ months

Have you tried to quit? YES NO

If YES, how many times? \_\_\_\_\_

If NO, did you ever smoke cigarettes in the past? YES NO

If YES, how many cigarettes did you smoke per day? \_\_\_\_\_

When did you start smoking? \_\_\_\_\_ (date)

When did you quit? \_\_\_\_\_ (date)

Do you use smokeless tobacco, such as dip or chew? YES NO

If YES, about how much do you use per day? \_\_\_\_\_

If NO, did you ever use smokeless tobacco in the past? YES NO

If **YES**, how much did you use per day? \_\_\_\_\_

When did you start using? \_\_\_\_\_ (year)

When did you quit? \_\_\_\_\_ (year)

Do you use any other nicotine-containing products? **YES NO**

If **YES**, **WHAT**? \_\_\_\_\_ How much? \_\_\_\_\_ How often? \_\_\_\_\_

## **OTHER**

Do you take diet pills? **YES NO**

If **YES**, what brand? \_\_\_\_\_ How much? \_\_\_\_\_ How often? \_\_\_\_\_

Are you currently taking any medications, vitamins, or supplements? **YES NO**

If **YES**, please list:

Name: \_\_\_\_\_ Dosage: \_\_\_\_\_

Name: \_\_\_\_\_ Dosage: \_\_\_\_\_

Name: \_\_\_\_\_ Dosage: \_\_\_\_\_

Name: \_\_\_\_\_ Dosage: \_\_\_\_\_

How many times per month do you drink (alcohol)? \_\_\_\_\_

On those occasions, what is the average number of drinks you consume? \_\_\_\_\_

On those occasions, what is the largest number of drinks you consume? \_\_\_\_\_

How many times in the past year have you used marijuana? \_\_\_\_\_

Have you ever used marijuana at other times in your life? **YES NO**

If **YES**, at what age did you begin smoking marijuana? \_\_\_\_\_

On approximately how many occasions have you used marijuana? \_\_\_\_\_

Do you use any other street drugs currently or in the past year? **YES NO**

If **YES**, **WHAT**? \_\_\_\_\_ How much? \_\_\_\_\_ How often? \_\_\_\_\_

## **PHYSICAL INFORMATION**

Do you engage in regular exercise: **YES NO**

If 'YES':

How many days per week do you exercise (circle one)? **1 2 3 4 5 6 7**

How many minutes per exercise session (on average): \_\_\_\_\_

What is your appetite like (circle one)?

Always hungry **1 2 3 4 5 6 7 8 9 10** Never hungry

Do you feel you eat more than you intend to (circle one)?

Never **1 2 3 4 5 6 7 8 9 10** Always

When hungry, how much do you crave carbohydrates (e.g., sweets, breads, pastas) (circle one)?

Not at all **1 2 3 4 5 6 7 8 9 10** Always

When hungry, how much do you crave fats (e.g., fried food, red meats, dairy) (circle one)?

Not at all **1 2 3 4 5 6 7 8 9 10** Always

Are you a vegetarian or a vegan? **YES NO**

Briefly list anything you had to eat today, how many servings, and when:

Food Item 1. \_\_\_\_\_, # servings \_\_\_\_\_, Time: \_\_\_\_\_ AM PM  
 Food Item 2. \_\_\_\_\_, # servings \_\_\_\_\_, Time: \_\_\_\_\_ AM PM  
 Food Item 3. \_\_\_\_\_, # servings \_\_\_\_\_, Time: \_\_\_\_\_ AM PM  
 Food Item 4. \_\_\_\_\_, # servings \_\_\_\_\_, Time: \_\_\_\_\_ AM PM  
 Food Item 5. \_\_\_\_\_, # servings \_\_\_\_\_, Time: \_\_\_\_\_ AM PM  
 Food Item 6. \_\_\_\_\_, # servings \_\_\_\_\_, Time: \_\_\_\_\_ AM PM  
 Food Item 7. \_\_\_\_\_, # servings \_\_\_\_\_, Time: \_\_\_\_\_ AM PM  
 Food Item 8. \_\_\_\_\_, # servings \_\_\_\_\_, Time: \_\_\_\_\_ AM PM  
 Food Item 9. \_\_\_\_\_, # servings \_\_\_\_\_, Time: \_\_\_\_\_ AM PM

## **SLEEP HABITS**

How much sleep did you get last night? \_\_\_\_\_

How much do you typically sleep on weeknights (Sun-Thur)? \_\_\_\_\_

How much do you typically sleep on weekend nights (Fri-Sat)? \_\_\_\_\_

At what time do you normally go to bed at night on:

week nights (Sun-Thur)? \_\_\_\_\_ AM PM (midnight = 12 AM; noon = 12 PM)

weekends (Fri-Sat)? \_\_\_\_\_ AM PM

What time do you typically awaken on:

weekdays (Mon-Fri)? \_\_\_\_\_ AM PM

weekends (Sat-Sun)? \_\_\_\_\_ AM PM

How long does it typically take you to fall asleep at night?

on week nights (Sun-Thur)? \_\_\_\_\_ MIN HRS

on weekends (Fri-Sat)? \_\_\_\_\_ MIN HRS

At what time of day do you feel sleepiest? \_\_\_\_\_ AM PM

At what time of day do you feel most alert? \_\_\_\_\_ AM PM

How many hours do you need to sleep to feel your best? \_\_\_\_\_

“If I get less than \_\_\_\_\_ hours of sleep, I notice an impairment in my ability to function at work.”

“If I get more than \_\_\_\_\_ hours of sleep, I notice an impairment in my ability to function at work.”

Is daytime sleepiness currently a problem for you? .....YES NO

Are you currently doing shift work, that is, working early morning, evening, or night shifts?...YES  
NO

Do you ever have trouble falling asleep? .....YES  
NO

If yes, how often? \_\_\_\_\_ times per WEEK MONTH YEAR (circle one)

Do you ever have trouble staying asleep? .....YES  
NO

If yes, how often? \_\_\_\_\_ times per WEEK MONTH YEAR (circle one)

Do you take more than two daytime naps per month? ..... YES NO

If yes, about how many times per week do you nap? ..... \_\_\_\_\_

At what time of day do you normally take your nap? \_\_\_\_:\_\_\_\_ AM/PM to \_\_\_\_:\_\_\_\_ AM/PM  
 Do you consider yourself a light, normal, or heavy sleeper? .....**LIGHT** **NORMAL** **HEAVY**

I yawn often

Never **1 2 3 4 5 6 7 8 9 10** Always yawning

When I see or hear someone else yawn, I will yawn too

Never **1 2 3 4 5 6 7 8 9 10** Every time

## RECENT RISK OF DOZING OFF (ESS)

How likely are to doze off or fall asleep in the following situations, in contrast to feeling just tired?

This refers to your **usual way of life in recent times**. Even if you have not done some of these things recently try to work out how they would have affected you. Use the following scale to choose the most appropriate number for each situation:

0 = would never doze

1 = slight chance of dozing

2 = moderate chance of dozing

3 = high chance of dozing

### SITUATION

### CHANCE OF DOZING (0-3)

Sitting and reading	0	1	2	3
Watching TV	0	1	2	3
Sitting, inactive in a public place (e.g. a theatre or meeting)	0	1	2	3
As a passenger in a car for an hour without a break	0	1	2	3
Lying down to rest in the afternoon when circumstances permit	0	1	2	3
Sitting and talking to someone	0	1	2	3
Sitting quietly after a lunch without alcohol	0	1	2	3
In a car, while stopped for a few minutes in the traffic	0	1	2	3

**During the past four weeks, how have you felt about your relationship (spouse/significant other) and your family?**

	Not at all satisfied	Somewhat satisfied	Neutral	Satisfied	Extremely satisfied	Not Applicable - no family or relationship
How satisfied are you with your marriage/relationship?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
How satisfied are you with your family?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



**How many people are there who you can always count on if you have serious problems?**

- ☐ None
- ☐ 1
- ☐ 2
- ☐ 3
- ☐ 4 or more

**I have a best friend.**

- ☐ Yes ☐ No

**I am very close to my family.**

- ☐ Yes ☐ No

**I have someone to talk to when I feel down.**

- ☐ Yes ☐ No

**I have as much contact with friends (non-work) and family members as I want or need.**

- ☐ Yes ☐ No

**I spend time at interests or hobbies other than work.**

- ☐ Yes ☐ No



# SR1

Self Report Measures for  
Adults and Older People  
K10+-LM

Facility Name: \_\_\_\_\_

Code: \_\_\_\_\_

Please used gummed label if available

Patient or Client Identifier:

Surname:

Other names:

Date of Birth:

Sex:

Male

☐

Female

☐

Address:

MENTAL HEALTH

Date completed:   /   /   

Instructions

The following ten questions ask about how you have been feeling in the **last four weeks**. For each question, mark the circle under the option that best describes the amount of time you felt that way.

Binding margin – do not write

	None of the time	A little of the time	Some of the time	Most of the time	All of the time
1. In the last four weeks, about how often did you feel tired out for no good reason?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
2. In the last four weeks, about how often did you feel nervous?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
3. In the last four weeks, about how often did you feel so nervous that nothing could calm you down?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
4. In the last four weeks, about how often did you feel hopeless?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. In the last four weeks, about how often did you feel restless or fidgety?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
6. In the last four weeks, about how often did you feel so restless you could not sit still?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
7. In the last four weeks, about how often did you feel depressed?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
8. In the last four weeks, about how often did you feel that everything was an effort?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

K10+-LM SELF-REPORT MEASURE (1 of 2)

please turn over the page to continue

	None of the time	A little of the time	Some of the time	Most of the time	All of the time
9. In the last four weeks, about how often did you feel so sad that nothing could cheer you up?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
10. In the last four weeks, about how often did you feel worthless?	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

The next few questions are about how these feelings may have affected you in the **last four weeks**.

You need not answer these questions if you answered “None of the time” to **all** of the ten questions about your feelings.

11. In the last four weeks, how many days were you TOTALLY UNABLE to work, study or manage your day to day activities because of these feelings?	<input type="text"/>	(Number of days)
12. [Aside from those days], in the last 4 weeks, HOW MANY DAYS were you able to work or study or manage your day to day activities, but had to CUT DOWN on what you did because of these feelings?	<input type="text"/>	(Number of days)
13. In the last 4 weeks, how many times have you seen a doctor or any other health professional about these feelings?	<input type="text"/>	(Number of consultations)
14. In the last 4 weeks, how often have physical health problems been the main cause of these feelings? <div style="text-align: right;"> None of the time    <input type="radio"/>  A little of the time    <input type="radio"/>  Some of the time    <input type="radio"/>  Most of the time    <input type="radio"/>  All of the time    <input type="radio"/> </div>		

**Thankyou for completing this questionnaire.**

Please return it to the staff member who asked you to complete it.

### MASQ-SHORT

Below is a list of feelings, sensations, problems, and experiences that people sometimes have. Read each item and then mark the appropriate choice in the space next to that item. Use the choice that best describes how much you have felt or experienced things this way during the past week, including today. Use this scale when answering:

- | 1<br>very slightly<br>or not at all           | 2<br>a little | 3<br>moderately | 4<br>quite a bit   | 5<br>extremely |
|---|---------------|-----------------|--|----------------|
| _____ 1. Felt sad                             |               |                 | _____ 32. Was unable to relax                                      |                |
| _____ 2. Startled easily                      |               |                 | _____ 33. Felt really slowed down                                  |                |
| _____ 3. Felt cheerful                        |               |                 | _____ 34. Was disappointed in myself                               |                |
| _____ 4. Felt afraid                          |               |                 | _____ 35. Felt nauseous  |                |
| _____ 5. Felt discouraged                     |               |                 | _____ 36. Felt hopeless  |                |
| _____ 6. Hands were shaky                     |               |                 | _____ 37. Felt dizzy or lightheaded                                |                |
| _____ 7. Felt optimistic                      |               |                 | _____ 38. Felt sluggish or tired                                   |                |
| _____ 8. Had diarrhea                         |               |                 | _____ 39. Felt really "up" or lively                               |                |
| _____ 9. Felt worthless                       |               |                 | _____ 40. Had a pain in my chest                                   |                |
| _____ 10. Felt really happy                   |               |                 | _____ 41. Felt really bored  |                |
| _____ 11. Felt nervous                        |               |                 | _____ 42. Felt like I was choking                                  |                |
| _____ 12. Felt depressed                      |               |                 | _____ 43. Looked forward to things with enjoyment                  |                |
| _____ 13. Was short of breath                 |               |                 | _____ 44. Muscles twitched or trembled                             |                |
| _____ 14. Felt uneasy                         |               |                 | _____ 45. Felt pessimistic about the future                        |                |
| _____ 15. Was proud of myself                 |               |                 | _____ 46. Had a very dry mouth                                     |                |
| _____ 16. Had a lump in my throat             |               |                 | _____ 47. Felt like I had a lot of interesting things to do        |                |
| _____ 17. Felt faint                          |               |                 | _____ 48. Was afraid I was going to die                            |                |
| _____ 18. Felt unattractive                   |               |                 | _____ 49. Felt like had accomplished a lot                         |                |
| _____ 19. Had hot or cold spells              |               |                 | _____ 50. Felt like it took an extra effort to get started         |                |
| _____ 20. Had an upset stomach                |               |                 | _____ 51. Felt like nothing was very enjoyable                     |                |
| _____ 21. Felt like a failure                 |               |                 | _____ 52. Heart was racing or pounding                             |                |
| _____ 22. Felt like I was having a lot of fun |               |                 | _____ 53. Felt like I had a lot to look forward to                 |                |
| _____ 23. Blamed myself for a lot of things   |               |                 | _____ 54. Felt numbness or tingling in my body                     |                |
| _____ 24. Hands were cold or sweaty           |               |                 | _____ 55. Felt tense or "high-strung"                              |                |
| _____ 25. Felt withdrawn from other people    |               |                 | _____ 56. Felt hopeful about the future                            |                |
| _____ 26. Felt keyed up, "on edge"            |               |                 | _____ 57. Felt like there wasn't anything interesting or fun to do |                |
| _____ 27. Felt like I had a lot of energy     |               |                 | _____ 58. Seemed to move quickly and easily                        |                |
| _____ 28. Was trembling or shaking            |               |                 | _____ 59. Muscles were tense or sore                               |                |
| _____ 29. Felt inferior to others             |               |                 | _____ 60. Felt really good about myself                            |                |
| _____ 30. Had trouble swallowing              |               |                 | _____ 61. Thought about death or suicide                           |                |
| _____ 31. Felt like crying                    |               |                 | _____ 62. Had to urinate frequently                                |                |

PANAS

Subject: \_\_\_\_\_ Date: \_\_\_\_\_ Time: \_\_\_\_\_

This scale consists of a number of words that describe different feelings and emotions. Read each item and then mark the appropriate answer in the space next to that word. Indicate to what extent you feel this way RIGHT NOW, that is, at the present moment.

1	2	3	4	5
very slightly or not at all	a little	moderately	quite a bit	extremely

_____ interested	_____ irritable
_____ distressed	_____ alert
_____ excited	_____ ashamed
_____ upset	_____ inspired
_____ strong	_____ nervous
_____ guilty	_____ determined
_____ scared	_____ attentive
_____ hostile	_____ jittery
_____ enthusiastic	_____ active
_____ proud	_____ afraid

## PATIENT HEALTH QUESTIONNAIRE (PHQ-9)

NAME: \_\_\_\_\_ DATE: \_\_\_\_\_

Over the last 2 weeks, how often have you been  
bothered by any of the following problems?  
(use "✓" to indicate your answer)

	Not at all	Several days	More than half the days	Nearly every day
1. Little interest or pleasure in doing things	0	1	2	3
2. Feeling down, depressed, or hopeless	0	1	2	3
3. Trouble falling or staying asleep, or sleeping too much	0	1	2	3
4. Feeling tired or having little energy	0	1	2	3
5. Poor appetite or overeating	0	1	2	3
6. Feeling bad about yourself—or that you are a failure or have let yourself or your family down	0	1	2	3
7. Trouble concentrating on things, such as reading the newspaper or watching television	0	1	2	3
8. Moving or speaking so slowly that other people could have noticed. Or the opposite — being so fidgety or restless that you have been moving around a lot more than usual	0	1	2	3
9. Thoughts that you would be better off dead, or of hurting yourself	0	1	2	3

add columns  +  +

(Healthcare professional: For interpretation of TOTAL, please refer to accompanying scoring card). TOTAL:

<b>10.</b> If you checked off <i>any problems</i> , how difficult have these problems made it for you to do your work, take care of things at home, or get along with other people?	Not difficult at all	_____
	Somewhat difficult	_____
	Very difficult	_____
	Extremely difficult	_____

**STRUCTURED CLINICAL INTERVIEW FOR DSM-IV-TR AXIS I DISORDERS**

**Patient Edition (January 2007)**

**SCID-I/P**

Michael B. First, M.D.; Robert L. Spitzer, M.D.;  
Miriam Gibbon, M.S.W.; and Janet B.W. Williams, D.S.W.

Study: _____	Study No.: _____	P1
Subject: _____	I.D. No.: _____	P2
Rater: _____	Rater No.: _____	P3
	Date of Interview: _____	P4
	Mo. Day Year	
Sources of information (check all that apply):	<input type="checkbox"/> Subject	P5
	<input type="checkbox"/> Family/friends/associates	P6
	<input type="checkbox"/> Health professional/chart/referral note	P7

Edited and checked by: \_\_\_\_\_ Date: \_\_\_\_\_

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1051 Riverside Drive - Unit 60  
New York, New York 10032

Web page: <http://www.scid4.org>

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### Snaith-Hamilton Pleasure Scale

This questionnaire is designed to measure your ability to experience pleasure in the last few days.  
 It is important to read each statement very carefully.  
 Circle the answer that corresponds to how much you agree or disagree with each statement.

- |   |                   |          |          |                   |
|---|-------------------|----------|----------|-------------------|
| 1. I would enjoy my favorite television or radio program. ....  | Strongly Disagree | Disagree | Agree    | Strongly Agree    |
| 2. I would enjoy being with my family or close friends. ....  | Definitely Agree  | Agree    | Disagree | Strongly Disagree |
| 3. I would find pleasure in my hobbies and past-times. ....   | Strongly Disagree | Disagree | Agree    | Strongly Agree    |
| 4. I would be able to enjoy my favorite meal. ....  | Definitely Agree  | Agree    | Disagree | Strongly Disagree |
| 5. I would enjoy a warm bath or refreshing shower. ....   | Definitely Agree  | Agree    | Disagree | Strongly Disagree |
| 6. I would find pleasure in the scent of flowers or the smell<br>of a fresh sea breeze or freshly baked bread. .... | Strongly Disagree | Disagree | Agree    | Strongly Agree    |
| 7. I would enjoy seeing other people's smiling faces. ....  | Definitely Agree  | Agree    | Disagree | Strongly Disagree |
| 8. I would enjoy looking smart when I have made<br>an effort with my appearance. ....                               | Strongly Disagree | Disagree | Agree    | Strongly Agree    |
| 9. I would enjoy reading a book, magazine, or newspaper. ....   | Definitely Agree  | Agree    | Disagree | Strongly Disagree |
| 10. I would enjoy a cup of tea or coffee or my favorite drink. ....   | Strongly Disagree | Disagree | Agree    | Strongly Agree    |
| 11. I would find pleasure in small things, e.g. bright sunny day,<br>a telephone call from a friend. ....           | Strongly Disagree | Disagree | Agree    | Strongly Agree    |
| 12. I would be able to enjoy a beautiful landscape or view. ....  | Definitely Agree  | Agree    | Disagree | Strongly Disagree |
| 13. I would get pleasure from helping others. ....  | Strongly Disagree | Disagree | Agree    | Strongly Agree    |
| 14. I would feel pleasure when I receive praise from other people. ....   | Definitely Agree  | Agree    | Disagree | Strongly Disagree |



Subject ID: \_\_\_\_\_

Date: \_\_\_\_\_

### Skills of Cognitive Behavioral Therapy— Patient Version

*Directions:* For each statement below, circle the number that best indicates how often you used the cognitive (thinking) and behavioral skills taught in this program during the past month. Please be as honest as possible:

1. I understood that my thoughts, feelings, and behaviors can contribute to my depression.

1	2	3	4	5
Never	Almost never	Half the time	Most of the time	Always or when needed

2. I examined my thoughts and how they contributed to my depression.

1	2	3	4	5
Never	Almost never	Half the time	Most of the time	Always or when needed

3. I identified negative/unhelpful thoughts and challenged them (e.g., using the Thought Challenging Worksheet).

1	2	3	4	5
Never	Almost never	Half the time	Most of the time	Always or when needed

4. I scheduled and participated in activities which improved my mood (e.g., using the Activity Planning Worksheet).

1	2	3	4	5
Never	Almost never	Half the time	Most of the time	Always or when needed

5. I looked for alternative explanations when I had negative thoughts.

1	2	3	4	5
Never	Almost never	Half the time	Most of the time	Always or when needed

6. I weighed the evidence/facts for and against negative thoughts.

1	2	3	4	5
Never	Almost never	Half the time	Most of the time	Always or when needed

7. I tested my negative/unhelpful thoughts or fears by setting up experiments (e.g., facing my fears of social interaction by spending time with people and seeing how well it actually goes).

1	2	3	4	5
Never	Almost never	Half the time	Most of the time	Always or when needed

8. I stated my thoughts in ways that could be tested.

1	2	3	4	5
Never	Almost never	Half the time	Most of the time	Always or when needed

9. I practiced being more *assertive* in my interactions with others.

1	2	3	4	5
Never	Almost never	Half the time	Most of the time	Always or when needed

## **CURRICULUM VITAE - SCOTT RAUCH**

Date prepared: December 7, 2012

Name: **Scott Laurence Rauch, MD**

### Education:

1982 B.A.	Amherst College (Neuroscience)
1987 M.D.	University of Cincinnati College of Medicine

### Postdoctoral Training:

#### Internship and Residencies:

1987-88	Resident in Internal Medicine, The Jewish Hospital, Cincinnati, OH
1988-91	Resident in Psychiatry, Massachusetts General Hospital
1990-91	Chief Resident in Psychiatry, Bulfinch Inpatient Unit, Massachusetts General Hospital

#### Clinical and Research Fellowships:

1984	University of Cincinnati College of Medicine Neurobiology Research Training Fellow, Cincinnati, OH
1988-91	Clinical Fellow in Psychiatry, Harvard Medical School
1991-93	Ciba Research Fellow in Psychiatry, Obsessive-Compulsive Disorders Unit, Massachusetts General Hospital
1992-94	National Cancer Institute Fellow in Radiological Sciences: PET Technologies and Applications, Division of Nuclear Medicine, Massachusetts General Hospital
1994-96	Clinical Investigator Training Program: Harvard/MIT Division of Health Sciences and Technology - Beth Israel Hospital, in collaboration with Pfizer, Inc.

### Licensure and Certification:

1989	Massachusetts License Registration (#71048)
1992	Board Certified in Psychiatry (#36392)

Academic Appointments:

1988-91	Clinical Fellow in Psychiatry, Harvard Medical School
1991-92	Instructor in Psychiatry, Harvard Medical School
1992-96	Assistant Professor of Psychiatry, Harvard Medical School
1994-96	Health Sciences Training Program Affiliated Research Fellow, Massachusetts Institute of Technology, Cambridge, MA
1996-06	Associate Professor of Psychiatry, Harvard Medical School
<b>2006-</b>	<b>Professor of Psychiatry, Harvard Medical School</b>

Hospital Appointments:

1991-94	Clinical Assistant in Psychiatry, Massachusetts General Hospital
1992-94	Research Fellow in Radiology, Massachusetts General Hospital
1994-97	Assistant Psychiatrist, Massachusetts General Hospital
1994-96	Assistant Radiological Scientist in Neuroimaging (Radiology), Massachusetts General Hospital
1997-99	Associate Psychiatrist, Massachusetts General Hospital
1997-06	Assistant Psychiatrist, McLean Hospital
2000-	Psychiatrist, Massachusetts General Hospital
<b>2006-</b>	<b>Psychiatrist in Chief, McLean Hospital</b>

Other Professional Positions and Major Visiting Appointments:

1982-83	Assistant in Medical Research, Departments of Psychiatry, Pharmacology and Neuroanatomy, Yale University School of Medicine, New Haven, CT
1990-92	Psychiatric Consultant, Clinical Research Center, Department of Brain and Cognitive Sciences, Massachusetts Institute of Technology, Cambridge, MA

Awards and Honors:

1982	James Olds Memorial Neuroscience Award, Amherst College Department of Neuroscience
1982	Magna Cum Laude, Amherst College
1982	Sigma Xi, Amherst College
1984	University of Cincinnati Medical Student Research Forum Prize
1986	Alpha Omega Alpha
1990	Henry P. Laughlin Fellow of The American College of Psychiatrists
1991	Thomas P. Hackett Award of The MGH Dept. of Psychiatry
1991	Ciba Clinical Research Fellowship in Psychiatry
1992	National Cancer Institute Research Fellowship in Radiological Sciences
1993	Young Investigator Award, The National Alliance for Research on Schizophrenia and Depression
1995	Samuel P. Cohen Memorial Award, The Tourette Syndrome Association
1996	Young Investigator Award, The National Alliance for Research on Schizophrenia and Depression
1999	Outstanding Psychiatrist Award for Research, Massachusetts Psychiatric Society
2002	George B. Murray Limbic System Lectureship Massachusetts General Hospital
2003	Richard Rosen Memorial Lectureship UCLA Department of Psychiatry and Biobehavioral Sciences
<b>2004</b>	<b>Joel Elkes International Award for Outstanding Contributions to Clinical and Translational Psychopharmacology Research,</b> American College of Neuropsychopharmacology
2006	American Association of Chairs of Departments of Psychiatry Visiting Professorship Award
<b>2007</b>	<b>A. Clifford Barger Award for Outstanding Mentorship, HMS</b>
2009	Publicity Club of New England, Bell Ringer Award for Employee Communications Campaign; Unveiling McLean Strategic Plan 2008
2009	Schizophrenia Research Top 10 cited papers of 2006-08 (Holt et al 2006;82:153-62.)
2010	Best Paper Award; 27 <sup>th</sup> Army Science Conference

## Major Committee Assignments:

### National & International:

1996-97	Task Force on Psychosurgery, American Assoc. of Neurological Surgeons
2001	Member, NIMH Search Committee for Unit Director, Neuroimaging of Emotion; Mood and Anxiety Disorders Program
2006	Dean's External Review Committee, Harvard University, Faculty of Arts & Sciences, Department of Psychology Program in Clinical Psychology
2007-2008	National Academy of Sciences, Institute of Medicine, Committee on Gulf War and Health: Brain Injury in Veterans and Long-term Health Outcomes
2007-12	APA DSM-V Anxiety Disorders Workgroup
2008	Secretary of Veterans Affairs International Round Table on Traumatic Brain Injury and Related Stress Disorders. Washington, DC.
2009-10	National Academy of Sciences, Institute of Medicine, Committee on Assessment of Readjustment Needs of Military Personnel, Veterans, and their Families (Phase I)
2010-12	National Academy of Sciences, Institute of Medicine, Committee on Assessment of Readjustment Needs of Military Personnel, Veterans, and their Families (Phase II)
2011	NIMH RDoCs Workshop on Negative Valence Domains, Rockville, MD
2011	Dean's Departmental/Chair Review, University of North Carolina, School of Medicine, Department of Psychiatry
2012	Center of Addiction and Mental Health, University of Toronto, Physician in Chief Review.

### Regional:

1993-95	Massachusetts Psychiatric Society, Legislative Network 7th Congressional District of Mass., Congressman Edward J. Markey
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### Massachusetts General Hospital / McLean Hospital / Partners HealthCare:

1990-	MGH Psychiatric Neurosurgery Committee
1992-06	MGH Research Council (Committee on Research)
1993-06	MGH Psychiatry Research Committee
1995-97	MGH Functional MRI Research Steering Committee
1995-06	MGH Executive Committee, Psychiatric Neuroscience Program
1996-00	MGH Scientific Management Committee, NMR Center
1998-06	MGH Psychiatry Departmental Planning Committee
1998-00	MGH Research Operations Improvement Committee
1999	Partners Psychiatry Strategic Planning Task Force on Research
2000-01	Spaulding Rehabilitation Hospital Network Behavioral and Mental Health Services Committee
2001-06	MGH Abstract Selection Committee for Scientific Advisory Committee
2003-06	MGH Subcommittee for Review of Research Proposals
2004-06	MGH Psychiatry Task Force on Parity in Promotions and Rank
2006-	Partners Research Committee
2006-	Partners Unit Directors (Operating Heads) Committee
2006-	McLean Hospital General Executive Committee, Chair
2006-	McLean Hospital Research Committee, Chair
2006-	McLean Hospital President's Cabinet, Chair
2006-	McLean Hospital Committee of Professors, Chair
2011-12	Search Committee Member, Kraft Family Center for Community Health, Executive Director Position

#### Harvard Medical School:

1993-94	Harvard Committee on Psychiatry Resident Moonlighting
2001-06	Harvard Medical School, Department of Psychiatry, Research Committee
2006-	Harvard Medical School, Department of Psychiatry, Executive Committee
2006-	Harvard Medical School, Department of Psychiatry, Appointments & Promotions Committee
2007-08	Search Committee, Harvard Medical School, Chair of Neurobiology
2007-08	Search Committee, Brigham & Women's Hospital, Chief of Psychiatry
2008-10	Chair, Search Committee, McLean Hospital, Director, Neuroimaging Center
2009-10	Harvard Medical School, Task Force on Streamlining the Senior Evaluation Process
2009-11	Search Committee, McLean Hospital, Leadership Positions in Psychology
2010-11	Harvard Medical School Liaison Committee on Medical Education, Governance and Administration Subcommittee
2012-	Chair, Search Committee, McLean Hospital, Chief, Division of Depression & Anxiety

#### Principal Clinical and Hospital Service Responsibilities:

1989-06	Staff Psychiatrist, Obsessive-Compulsive Disorders Unit, Massachusetts General Hospital
1990-91	Psychiatric Consultant, Division of Mental Health North End Community Health Center, Boston, MA
1991-92	Medical Director, Division of Mental Health North End Community Health Center, Boston, MA
1993-97	MGH Group Psychiatry Practice, MGH
1997-01	Staff Psychiatrist, OCD Institute, McLean/MGH, Belmont, MA
<b>2006-</b>	<b>Psychiatrist in Chief, McLean Hospital, Belmont, MA</b>

#### Major Administrative Responsibilities:

1990-91	Chief Resident in Psychiatry, Bulfinch Inpatient Unit, MGH
1991-92	Medical Director, Division of Mental Health North End Community Health Center, Boston, MA
1992-94	Director of PET Studies, OCD Unit, MGH
1994-06	Director, Psychiatric Neuroimaging Research, MGH
1995-03	Associate Director, Psychiatric Neuroscience Program, MGH
1998-06	Associate Chief of Psychiatry (For Neuroscience Research), MGH
2001-06	Director, Division of Behavioral and Mental Health, Spaulding Rehabilitation Hospital
2003-06	Director, MGH Division of Psychiatric Neuroscience & Neurotherapeutics
<b>2006-</b>	<b>President &amp; Psychiatrist in Chief, McLean Hospital</b>
<b>2006-</b>	<b>Chair, Partners Psychiatry and Mental Health, Partners HealthCare System</b>

#### Memberships in Professional Societies:

1986-	Alpha Omega Alpha
1987-	American Medical Association
1987-	American Psychiatric Association (Fellow, 2011)
1989-	Massachusetts Psychiatric Society
1995-	International Society for Neuroimaging in Psychiatry
1998-	Obsessive Compulsive Foundation
1999-	Society of Biological Psychiatry
1999-	Anxiety Disorders Association of America
2005-	American College of Neuropsychopharmacology (Fellow, 2012)

Leadership Roles in Professional Societies:

1998-	Obsessive Compulsive Foundation, Scientific Advisory Board	
1999-	Anxiety Disorders Association of America, Scientific Advisory Board	2000-4; 06-
08;11-	Scientific Program Committee, Society of Biological Psychiatry	
	Annual Meetings	
2008-11	Council Member, Society of Biological Psychiatry	
2009-11	Membership Committee, American College of Neuropsychopharmacology	
2011-12	President Elect, Society of Biological Psychiatry	
<b>2010-</b>	<b>Co-chair, Education &amp; Training Committee, American College of Neuropsychopharmacology</b>	
<b>2012-</b>	<b>President, Society of Biological Psychiatry</b>	

Grant Review Panels:

1997-	VA Merit Review Grants
1997-02	Obsessive Compulsive Foundation
1998	Wellcome Trust (UK)
1998	National Center for Responsible Gaming - Neuroscience Proposals
1998 & 99	NIH/NIMH Study Section: Conte Centers for Neuroscience Research
1999	NIMH Special Emphasis Panel - K02 Review
2000-	ADAA Junior Faculty Research Grants
2000-02	NIMH Special Emphasis Panel - ZMH1-BRB-P
2001	Vanderbilt Intramural Research Grants
2002	The Hospital for Sick Children Foundation (Toronto)
2002& 03	NIMH Special Emphasis Panel - ZRG1-IFCN-5 (Chair)
2003	Israel Science Foundation
2003	Jules Thorn Charitable Trust (UK)
2005	NIMH Special Emphasis Panel - ZMH1 ERB-H-02
	Review of P50 Minority Centers to Address Health Care Disparities
2006	NIMH Panel - ZMH1 ERB-G (C3); Loan Repayment Program
2006	Swiss National Science Foundation
2007-	Chair, McLean Fellowship Awards Review/Selection Committee

Editorial Boards:

1995-	Journal of Geriatric Psychiatry and Neurology
1999-2011	Biological Psychiatry *(ex officio as president of society 2012-present)
1999-2011	CNS Spectrums
1999-	Brazilian Journal of Psychiatry (Revista Brasileira de Psiquiatria)
2004	Psychophysiology (consulting editor)
2004-	Depression and Anxiety
2005	Invited Reviewer of American Psychiatric Association Practice Guidelines for Obsessive Compulsive Disorder
2005-	Psychiatry Research: Neuroimaging
2006-09	The International Journal of Eating Disorders
2006-09	Neuropsychopharmacology Reviews
2006-11	TheScientificWorldPsychiatry
2007-12	Harvard Mental Health Letter
2007-	Brain Imaging & Behavior
2007-	Harvard Review of Psychiatry
2011-	Biology of Mood and Anxiety Disorders
2011-	Journal of Obsessive Compulsive and Related Disorders

Ad Hoc Reviewer (> 50 peer-reviewed journals):

Acta Psychiatrica Scandinavica; American Journal of Psychiatry; American Journal of Geriatric Psychiatry; Archives of General Psychiatry; Behavioral Neuroscience; Brain Research; Cerebral Cortex; Cognitive Processing; Collegium Antropologicum; Depression and Anxiety; Frontiers in Behavioral Neuroscience; General Hospital Psychiatry; Harvard Review of Psychiatry; Human Brain Mapping; International Journal of Neuropsychopharmacology; Journal of Affective Disorders; Journal of the American Academy of Child and Adolescent Psychiatry; Journal of the American Medical Association; Journal of Abnormal Psychology; Journal of Clinical Psychiatry; Journal of Clinical Psychopharmacology; Journal of Neuropsychiatry and Clinical Neurosciences; Journal of the International Neuropsychological Society; Journal of Neuroscience; Journal of Nuclear Medicine; Journal of Psychiatric Research; Journal of Psychiatry and Neuroscience; Learning and Memory; Molecular Psychiatry; Nature Medicine; Neurobiology of Aging; Neuroimage; Neuron; Neuropsychiatric Genetics; Neuropsychologia; Neuropsychopharmacology; Neuroscience; Neuroscience and Biobehavioral Reviews; Neuroscience Letters; New England Journal of Medicine; Proceedings of the National Academy of Sciences USA; Progress in Neurobiology; Psychiatry Research; Psychological Bulletin; Psychological Medicine; Psychological Review; Psychological Science; Psychoneuroendocrinology; Psychopharmacology; Psychosomatic Medicine; Psychosomatics; Schizophrenia Research; Science; Stress; Translational Medicine; Translational Psychiatry

#### Data Safety Monitoring and Institutional Review Boards

2005-09	Chair, DSMB for NIMH-sponsored Multi-site Trial of Transcranial Magnetic Stimulation for Treatment Resistant Depression
2006	External Expert Consultant, Toronto University Health Network Research Ethics Board (review of human research proposal)
2009-	Chair, McLean Hospital, Human Research Protection Program

#### Board Positions:

1996	Solvay Pharmaceuticals, Advisory Board
1998-02	Zebra Pharmaceuticals; Biostream, Inc., Advisory Board
2005-	The Brain Resource Company Limited, Scientific Advisory Board
2006-11	External Scientific Advisory Board: Center for the Study of Emotion & Attention (NIH-Funded Multi-site International Center - Peter Lang, PI)
2006-11	Amherst "A Better Chance (ABC)" Scholars Program, Board of Directors
2007-09	Massachusetts Society for Medical Research, Board of Trustees
2007-	McLean Hospital, Board of Trustees
2008-09	National Mental Health Foundation, Board of Directors
2008-	National Network of Depression Centers, Governing Board
2010-	External Advisory Board, Conte Center for Basic and Translational Mental Health Research P50 MH086400: "Neurocircuitry Underlying DBS Effects OCD: A window into Mechanisms of Action" (Suzanne Haber, PI)
2011-	National Network of Depression Centers, Budget & Finance Committee



Teaching Experience:

Local Contributions:

Massachusetts General Hospital & McLean Hospital

1989-91	Substance Abuse (Core Clerkship in Psychiatry) Lecturer; 2-5 medical students/month; 9-12 hours/year
1990-91	Chief Resident Lecture Series (Inpatient Psychiatry) Organizer and presenter; 4 residents/rotation 40 hours/year
1992-96	Neuroimaging and Psychiatry Lecturer; 2-5 medical students/month; 12 residents/year 10-15 hours/year
1992-00	Neurobiology of Obsessive Compulsive Disorders Lecturer, 12 psychiatry residents; 2 hours/year
1992-00	Research Careers in Psychiatry Lecturer/Discussant, 12-16 psychiatry residents 2 hours/year
1994	Clinical Neuroimaging in Psychiatry Lecturer; 6 Psychiatrists (Outpatient Consult Service) 1 hour
2001-08	The Neuroanatomy of Anxiety Disorders Lecturer; 16 psychiatry residents; 1 hour/year
2003-07	Limbic System Surgery for Psychiatric Diseases Lecturer; 16 psychiatry residents; 1 hour/year
2005	Harvard Psychiatry Resident's Day, Invited Panelist on Evidence-based medicine and psychiatry

## Harvard Medical School and Affiliated Hospitals

1991	Introduction to Clinical Medicine - Advanced Interviewing Preceptor, 6 medical students, 16 hours
1991-95	Psychotropic Medications and Complaints of Dizziness Massachusetts Eye and Ear Infirmary; Lecturer/Consultant; Vestibular Disorders Support Group, 10-30 patients and 1-5 staff; 1-2 hours/year
1992-95	Neurobiology of Obsessive Compulsive Disorders, Beth Israel Hospital, Lecturer, 6 psychiatry residents , 1 hour/year
1993-95	Clinical Psychopharmacology of Anxiety Disorders Harvard-MIT HST Program, Lecturer, 60 medical students 2 hours/year
1995-97	Applications of Neuroimaging in Psychiatry McLean Hospital, Lecturer, 6-8 psychiatry residents 1 hour/year
1996-05	Neurobiology of Obsessive Compulsive Disorders Children's Hospital, Lecturer, 6-10 child psychiatry fellows 1.5 hours/year
1998	Neurobiology of Disease Course, Tourette Syndrome module Harvard Medical School, Department of Neurobiology, Lecturer, ~25 graduate students, 1.5 hours
2003-04	Neuroimaging and the Neurobiology of Obsessive Compulsive Disorders, Massachusetts Mental Health Center Neuropsychology Post-doctoral Fellowship Seminar, Lecturer, ~15 fellows and faculty, 1.5 hours/year
2003-05	Neurobiology of Posttraumatic Stress Disorder Children's Hospital, Lecturer, 6-10 child psychiatry fellows 1.5 hours/year
2006	Diseases of the Nervous System Course; Lecture on: Translational Neuroscience in Psychiatry: The Example of PTSD. Harvard-MIT HST Program, Lecturer, 60 undergrad/grad students 1.5 hours/year

## Advising Responsibilities

1991-92	Psychiatry Rotation, North End Community Health Center Supervisor; 3 MGH residents/year
1991-92	Mental Health Care, North End Community Health Center Supervisor; 1 Psychologist, 1 Psychiatrist, and 6 Social Workers
1991-99	Inpatient Psychiatry Rotation, MGH Off-ward Supervisor; 3-4 residents/year
1994-06	Psychiatry Residency Training Program, MGH/McLean Training Supervisor; up to 3 residents/year
1994-06	Psychiatric Neuroimaging Research, MGH Supervisor; 3-5 Junior Faculty, 1-3 Fellows, and 1-3 Research Assistants/yr.

## Leadership Roles

1992-97	Organizer, PET Neuroscience Collaborators Conference, Multidisciplinary conference for PET researchers at MGH
1993-00	Course Director, "Neurobiology of Disease" PGY-III Psychiatry Residents, MGH-McLean (MGH)
1994-96	Director, Psychiatric Neuroimaging Research Conference, Organizer of weekly meetings to discuss advances in neuroimaging and plan MGH research program
1999-01	"Pharmacologic Management of Psychiatric Disease", Lecturer & Section Director; 60 medical students (Harvard-MIT HST Program) 3 hours/year
2000-06	Course Director, MGH/Harvard Cope Series CME Course, "Psychiatric Neuroscience: A Primer for Clinicians" Approx. 400 attendees
2004-06	Seminar Series Director, "Neuroimaging Applications in Clinical Investigation", Harvard- MIT Clinical Investigator Training Program, in collaboration with Pfizer, Inc. Approx. 20 fellows
2005	Course Director, MGH-Psychiatry Academy CME Satellite Presentation: "The Role of Cognitive Function in Assessment and Treatment of Psychiatric Disorders"
2007-	Course Director, McLean Hospital CME: "Psychiatry in [year]" annual series. approx 250- 350 attendees/year
2011	Plenary chair/co-sponsor, HMS Psychiatry Residents Day -- "The Future of Psychiatry: From Research to Health Care Policy" (plenary speakers: Steve Hyman & Gary Gottlieb)
2012	Course Director, McLean/HMS CME: "Depression, Anxiety & Stress" Approx. 300 attendees

## Regional, National, and International Contributions:

### Invited Presentations:

- 1988                    Neurology Grand Rounds, The Jewish Hospital of Cincinnati -  
"Neurochemical models of movement disorders"
- 1990                    Psychosomatic Conference, Division of Consultation/Liaison  
Psychiatry, Massachusetts General Hospital -  
"Neurobiological models of obsessive-compulsive disorder"
- 1990                    Psychosomatic Conference, Division of Consultation/Liaison  
Psychiatry, Massachusetts General Hospital -  
"Nicotine and the central nervous system"
- 1990                    Psychosomatic Conference, Division of Consultation/Liaison  
Psychiatry, Massachusetts General Hospital -  
"Neuropsychiatric considerations in the treatment of  
hypertension"
- 1991                    Psychiatry Grand Rounds, Massachusetts General Hospital -  
"Neurobiological models of obsessive-compulsive disorder"
- 1992                    Presentation to The Joint Advisory Boards of The Tourette Syndrome  
Association, Boston - "Pre-cingulotomy assessment of patients with  
obsessive-compulsive disorder"
- 1992                    Psychosomatic Conference, Division of Consultation/Liaison  
Psychiatry, Massachusetts General Hospital - "Functional neuroimaging in  
psychiatry"
- 1993                    First International OCD Conference, Capri, Italy -  
"Functional neuroimaging of obsessive compulsive disorder:  
neurobehavioral activation paradigms"
- 1993                    First International OCD Conference, Capri, Italy -  
"Treatment resistance" (Chair)
- 1993                    International Workshop on Obsessive Compulsive Disorder,  
Vail, CO - "Advances in the functional neuroimaging of OCD"
- 1993                    Pacific Rim College of Psychiatry Meeting, Shanghai, People's  
Republic of China - "Obsessive-compulsive disorder" (Chair)
- 1993                    Pacific Rim College of Psychiatry Meeting, Shanghai, People's  
Republic of China - "Brain imaging and OCD"
- 1993                    People's Republic of China Psychiatric Lecture Series: Shanghai,  
Goungzhou, Tianjin, and Beijing - "Diagnosis and Treatment of OCD"
- 1993                    "Recognition and management of OCD" Canadian Psychiatric Association  
Symposium, San Francisco - OCD: The Current Clinical Perspective,  
"OCD: the perceptual issues"
- 1993                    NARSAD Young Investigator Awards Symposium, New York, NY -  
"PET activation studies in patients with OCD"

Invited Presentations (continued):

- 1993                      Psychosomatic Conference, Division of Consultation/Liaison  
Psychiatry, Massachusetts General Hospital - "Functional neuroimaging in  
psychiatry"
- 1993                      Psychosomatic Conference, Division of Consultation/Liaison  
Psychiatry, Massachusetts General Hospital -  
"Examining the role of the basal ganglia in thought disorders:  
a case of Fahr's syndrome" (Discussant)
- 1993                      Actualizaciones en Psiquiatria I: Trastornos obsesivo-compulsivos,  
[Update in psychiatry: Obsessive-compulsive disorder]  
Barcelona, Spain - "Psychopharmacology"
- 1993                      Psychiatry Grand Rounds, MGH -  
"Advances in neuroimaging of anxiety: PET activation studies"
- 1994                      Psychiatry Grand Rounds, Minneapolis Veterans Administration Hospital,  
Minneapolis - "Update on obsessive-compulsive                      disorder: neurobiology and                      treatment".
- 1994                      Society of Biological Psychiatry, Philadelphia - "PET O-15 symptom provocation  
studies of anxiety disorders"
- 1994                      Collegium Internationale Neuropsychopharmacologicum, Washington, D.C.  
"PET O-15 symptom provocation studies: a comparison between OCD and simple  
phobia"
- 1994                      First Norwegian Conference on Tourette Syndrome and  
Associated Behaviors, Sandefjord, Norway -  
"Obsessive compulsive disorder in Tourette syndrome"
- 1994                      MGH Geriatric Psychiatry CME Course, Boston -  
"Neuroimaging in the elderly"
- 1994                      MGH Functional Magnetic Resonance Imaging Visiting  
Fellowship/Course, Boston - "Neuroimaging in psychiatry"
- 1995                      Psychiatry Grand Rounds, Brigham & Women's Hospital,  
Boston - "Advances in obsessive-compulsive disorder:  
neurobiology and treatment"
- 1995                      MGH Functional Magnetic Resonance Imaging Visiting  
Fellowship/Course, Boston - "Neuroimaging in psychiatry"  
(course given 3 times per year)
- 1995                      Behavioral Neurology Rounds, Beth Israel Hospital, Boston -  
"Applications of PET in neuroscience"
- 1995                      Anxiety Disorders Association of America, Pittsburgh -  
"Neuroimaging and the neurobiology of OCD"
- 1995                      Behavioral Neurology Grand Rounds, Brigham & Women's  
Hospital, Boston - "Advances in OCD"

Invited Presentations (continued):

- 1995                      First International Conference on Functional Mapping of the Human Brain, Paris - "Functional neuroanatomy of implicit sequence learning studied with PET"
- 1995                      Second International Conference on New Directions in Affective Disorders, Jerusalem - "Neuroimaging research and the neurobiology of obsessive-compulsive disorder"
- 1995                      American Psychiatric Association's Institute on Psychiatric Services, Boston - "A decade of progress in OCD brain imaging"
- 1995                      American Psychiatric Association's Institute on Psychiatric Services, Boston - "Clinical neuroimaging in psychiatry",                      symposium (Chair)
- 1995                      American Psychiatric Association's Institute on Psychiatric Services, Boston - "Structural and functional neuroimaging in clinical psychiatry"
- 1995                      American Psychiatric Association's Institute on Psychiatric Services, Boston - "The integrated use of neuroimaging techniques in psychiatric research"
- 1995                      MGH Geriatric Psychiatry CME Course, Boston - "Neuroimaging in the elderly"
- 1995                      MGH Psychopharmacology CME Course, Boston - "Pharmacotherapy of obsessive-compulsive disorder"
- 1995                      NIMH/OC Foundation Meeting on Treatment of Refractory OCD, Durham, NH - Panel: "Neurosurgical treatment of OCD"
- 1995                      Tourette Syndrome Association, Inc, Annual Meeting, North Shore University Hospital, Long Island - "OCD in TS: neurobiology and treatment"
- 1995                      Harvard University Health Service Conference, Cambridge, MA - "Neurobiology of OCD and related disorders"
- 1995                      Psychosomatic Conference, Division of Consultation/Liaison Psychiatry, Massachusetts General Hospital - "Psychiatry of the basal ganglia" (Discussant)
- 1995                      Neuropsychiatry of the Basal Ganglia Symposium, Departments of Psychiatry and Neurology of the Faculty of Medicine of the University of Sao Paulo, Sao Paulo, Brazil - "Neuroimaging of OCD and other anxiety disorders"
- 1995                      Neuropsychiatry of the Basal Ganglia Symposium, Departments of Psychiatry and Neurology of the Faculty of Medicine of the University of Sao Paulo, Sao Paulo, Brazil - "Pharmacologic treatment of OCD"
- 1995                      Frontiers of Technology and Biomedical Science Lecture Series, Massachusetts Institute of Technology, Cambridge - "New directions for high resolution PET" (Discussant)

Invited Presentations (continued):

- 1996                    The New Traumatology Conference, The Florida Mental Health Institute and University of South Florida College of Medicine, Clearwater Beach, Florida - "Detecting neural traces of emotional trauma: Advances in brain imaging of PTSD and anxiety"
- 1996                    Psychiatry Grand Rounds, University of Texas Medical Branch, Galveston, Texas - "Advances in the neurobiology and neuroimaging of OCD"
- 1996                    Neurology Grand Rounds, MGH - "Advances in the neurobiology of obsessive-compulsive disorders: How can we use neuroimaging to probe the striatum?"
- 1996                    Psychosomatic Conference, Division of Consultation/Liaison Psychiatry, Massachusetts General Hospital - "The impact of neuroimaging on neurobiologic models of depression" (Discussant)
- 1996                    New Hampshire Hospital - Dartmouth Medical School Grand Rounds, Concord, New Hampshire - "Neuroimaging in psychiatry"
- 1996                    American Psychiatric Association Annual Meeting, New York - "Neuroimaging in OCD and related disorders"
- 1996                    American Psychiatric Association Annual Meeting, New York - "Imaging cortico-striatal systems in psychiatry"
- 1996                    Massachusetts Institute of Technology, Psychiatry Service Conference, Cambridge, MA - "Neuroimaging of OCD and other anxiety disorders"
- 1996                    Visiting Lecture, University of Wisconsin, Wisconsin Psychiatric Institute and Clinics, Madison, WI - "Neuroimaging of OCD and related disorders"
- 1996                    World Psychiatric Association Meeting, Symposium on Neuroimaging in Psychiatry, Madrid, Spain - "Imaging cortico-striatal systems in psychiatry"
- 1996                    International Congress of Neuropsychiatry, Plenary Lecture, Seville, Spain - "Functional neuroimaging of OCDs"
- 1996                    New York Academy of Sciences Conference - Psychobiology of Posttraumatic Stress Disorder, Rockefeller University, New York - "Functional neuroimaging of PTSD"
- 1996                    Grand Rounds Lecture Series, Western Massachusetts Psychiatric Association, Northampton, MA - "Neuroimaging in psychiatry"
- 1996                    MIT/Wyeth-Ayerst Symposium on Neuroimaging, Cambridge, MA - "Neuroimaging in psychiatry: Symptom provocation and beyond"
- 1996                    Neurosciences Grand Rounds, Marshfield Clinic, Marshfield, WI - "Advances in the neuroimaging of OCD and related disorders"

Invited Presentations (continued):

- 1996                      Wisconsin Tourette Syndrome Association Conference -  
Tourette Syndrome: Focus on Obsessive Compulsive and  
Related Disorders, Saint Joseph's Hospital, Marshfield, WI -  
"Neurobiology of OCD, TS, and related disorders"
  
- 1996                      American Psychiatric Association's Institute on Psychiatric Services,  
Chicago - "Neuroimaging in OCD and related disorders"
  
- 1996                      MGH Psychopharmacology CME Course, Boston -  
"Neuroimaging and Psychiatry"
  
- 1996                      Psychiatry Grand Rounds, Cleveland Clinic Foundation, Cleveland -  
"Neuroimaging of OCD and related disorders"
  
- 1997                      Tourette Syndrome Association of Georgia Regional Conference,  
Atlanta, GA - "The neurobiology and neuroimaging of TS, OCD,  
and related disorders"
  
- 1997                      Tourette Syndrome Association of Georgia Regional Conference,  
Atlanta, GA - "Practical treatment of OCD in adolescents and adults  
with TS"
  
- 1997                      Academic Grand Rounds, Departments of Psychiatry and Human  
Behavior, Brown University School of Medicine, Providence -  
"Advances in neuroimaging and the neurobiology of OCD"
  
- 1997                      Wayne State University Department of Psychiatry and Behavioral  
Neurosciences, Symposium on Diagnosis and Treatment of Obsessive  
Compulsive Disorder Through The Life Cycle, Dearborn, MI -  
"Neuroimaging studies in OCD: diagnostic & treatment implications"
  
- 1997                      Tourette Syndrome Association of Massachusetts Annual Conference for Educators,  
Marlborough, MA - "Directions in TS Research"
  
- 1997                      OC Foundation, Greater Boston Affiliate, Speakers Program,  
Charlestown, MA - "Neuroimaging studies of OCD"
  
- 1997                      Harvard Psychiatry Day, Academic Program on Neuroimaging and Psychiatry,  
McLean Hospital, Belmont, MA - "PET and fMRI studies of obsessive compulsive  
and related disorders"
  
- 1997                      Massachusetts Mental Health Center, Psychopharmacology Lecture Series,  
Boston, MA - "OCD - New research findings"
  
- 1997                      Grand Rounds, University of Massachusetts Medical Center, Dept. of Psychiatry,  
Worcester, MA - "Neuroimaging and the neurobiology of obsessive compulsive  
disorders"
  
- 1997                      New England Council on Child and Adolescent Psychiatry,  
Annual Psychopharmacology Conference, Lexington, MA -  
"Recent findings in neuroimaging of OCD"
  
- 1997                      Psychiatry Grand Rounds, Massachusetts General Hospital -  
"Advances in psychiatric neuroimaging research"



Invited Presentations (continued):

- 1997 Psychosomatic Conference, Division of Consultation/Liaison Psychiatry, Massachusetts General Hospital - "Stress and the amygdala: from basic science to bedside" (Discussant)
- 1997 European College of Neuropsychopharmacology, Satellite Symposium - "Posttraumatic Stress Disorders: From Shell Shock to the end of the Millennium", Vienna, Austria - "Neuroimaging research and the neurobiology of PTSD"
- 1997 Wayne State University Department of Psychiatry and Behavioral Neurosciences, Symposium on Brain Imaging: Implications for the Diagnosis and Treatment of Neuropsychiatric Disorders, Dearborn, MI - "Neuroimaging and neurobiology of obsessive compulsive disorders"
- 1997 MGH Psychopharmacology CME Course, Boston - "Neuroimaging and psychiatry"
- 1997 University of Illinois College of Medicine & Rockford Health System, Symposium on Clinical Aspects of Medical Psychiatry, Rockford, IL - "Neuroimaging and the neurobiology of OCDs"
- 1997 Science Lecture Series in Psychiatry at Tufts University, Tufts University School of Medicine, Boston, MA - "Neuroimaging and the neurobiology of anxiety disorders"
- 1997 Psychiatry Grand Rounds, University of Florida, Gainesville - "Neuroimaging and the neurobiology of OCD"
- 1997 Grand Rounds, McLean Hospital, Belmont, MA - "Neuroimaging and the neurobiology of OCD"
- 1998 Psychiatry Grand Rounds, Emory University, Atlanta - "Neuroimaging and the neurobiology of OCD"
- 1998 Science in Medicine Lecture Series, Shriners' Burns Institute, Boston - "Neuroimaging and the neurobiology of posttraumatic stress disorder"
- 1998 Boston Society of Psychiatry and Neurology Lecture Series, Boston - "Neuroimaging and the neurobiology of OCD"
- 1998 American Psychosomatic Society, Annual Scientific Meeting, Clearwater, FL - "Functional neuroimaging studies of PTSD"
- 1998 Dean's Consultation Conference on the University of Florida Brain Institute, Gainesville - "Applications of neuroimaging: OCD"
- 1998 Anxiety Disorders Association of America, Scientific Satellite Meeting: Brain neurocircuitry of anxiety and fear - implications for clinical research and practice, Boston - "Development of neuroimaging probes to study human limbic function in anxiety disorders"
- 1998 Behavioral Neurology Seminar Series, McLean Hospital, Belmont, MA - "Neuroimaging and the neurobiology of anxiety disorders"

Invited Presentations (continued):

- 1998 International Teleconference on OCD, Buenos Aires, Argentina;  
televised lecture from Tufts University School of Medicine, Boston -  
"Neuroimaging and the neurobiology of OCD"
- 1998 Society of Biological Psychiatry, Toronto - Symposium on "Advances in the  
Neurobiology of Obsessive Compulsive Disorder" (Chair)
- 1998 Society of Biological Psychiatry, Toronto - "New neuroimaging probes for the study  
of OCD"
- 1998 American Psychiatric Association, Toronto - Psychiatry Review V,  
"Evaluating the effects of psychological trauma using neuroimaging techniques"
- 1998 American Psychiatric Association, Toronto - "Functional neuroimaging studies in  
anxiety disorders"
- 1998 Collegium Internationale Neuro-Psychopharmacologicum, Symposium:  
Mapping Brain Circuitry Involved in Obsessive-Compulsive Disorder -  
Glasgow, "Cognitive activation probes in neuroimaging studies of OCD"
- 1998 Psychiatry Grand Rounds, Dartmouth-Hitchcock Medical Center, Lebanon, NH -  
"Neuroimaging and the neurobiology of OCD"
- 1998 Tourette Syndrome Association Neuroimaging Meeting, Boston -  
"Neuroimaging in TS and related disorders: symptom provocation &  
cognitive activation paradigms"
- 1998 Third International OCD Conference, Madeira, Portugal -  
"Neurocircuitry and neuroimaging of OCD" (Chair)
- 1998 Neuroimaging Research Symposium, Columbia University,  
New York State Psychiatric Institute, New York (Chair)
- 1998 Psychiatry Lecture Series, University of Illinois at Chicago, Chicago -  
"Neuroimaging and the neurobiology of OCD"
- 1998 Psychiatry Lecture Series, Rush-Presbyterian-St. Luke's Medical Center, Chicago -  
"Neuroimaging and the neurobiology of OCD"
- 1998 Satellite Symposium to the 5th International Congress of Movement Disorders, NY -  
Tourette Syndrome and Associated Disorders; "Biology of OCD"
- 1998 MGH Clinical Functional MRI CME Course, Boston -  
"Obsessive compulsive disorder and posttraumatic stress disorder"
- 1998 Sixth Triennial Meeting of the International Basal Ganglia Society, Cape Cod -  
Cognition and Learning: "Neuroimaging studies of implicit sequence learning:  
probes of striatal function in health and disease"
- 1999 Second World Congress on Stress, Melbourne, Australia -  
Symposium on Functional Neuroimaging of Stress and Emotions:  
"Developing neuroimaging probes of limbic function"

Invited Presentations (continued):

1999	European College of Neuropsychopharmacology, Paris - Symposium on New Developments in PTSD: "Advances in neuroimaging of PTSD: PET and MRI studies"	
1999	Society for Neuroscience, Los Angeles - Neurobiology of Disease Workshop on Tourette Syndrome and Obsessive Compulsive Disorders: "Imaging in TS & OCD"	
1999	Psychiatry Research Conference, Johns Hopkins University School of Medicine, Baltimore - "Neuroimaging and the neurobiology of OCD"	
1999	Visiting Lecture, CNS Group, Pfizer, Groton, CT - "Neuroimaging research in neuropsychiatry: The example of OCD"	
1999	McLean CME Course on OCD, Belmont, MA - "Neuroimaging and the neurobiology of OCD"	
1999	Neuroscience Program 25th Anniversary Lecture Series, Amherst College, Amherst, MA - "Neuroimaging and the neurobiology of OCD"	
1999	MGH Geriatric Psychiatry CME Course, Boston - "Neuroimaging in the elderly"	
1999	Mount Sinai School of Medicine, Symposium on New insights: Obsessive compulsive, anxiety and pathological gambling disorders, New York - "Functional imaging of OCD and anxiety disorders"	New
1999	National Institute of Mental Health, Workshop on Genetics of Cognition, Washington, D.C. - "Neuroimaging studies of cognitive function"	
1999	Third International Scientific Symposium on Tourette Syndrome, New York - Symposium on Neuroimaging & Neurophysiology: "Imaging and the neurobiology of OCD"	
1999	The Obsessive Compulsive Foundation Annual Conference, Washington, D.C. - "Neurobiology of OCD"	
1999	Harvard Medical International Course on Good Practices in Clinical Research, Mexico City - "Clinical research: An overview"	
1999	Symposium on Applied Therapeutics, in conjunction with Harvard Medical International and Pfizer, Mexico City - "The neurologic basis of psychiatric diseases and their treatments"	
1999	NIMH 3rd Annual Intramural Research Program Scientific Retreat, Airlie, VA - "Neuroimaging studies of anxiety disorders"	
1999	MGH Comprehensive Psychiatry Review CME Course, Boston - "Neuroimaging "	
1999	MGH Psychopharmacology CME Course, Boston - "Neuroimaging and psychiatry: clinical applications"	
1999	MGH Psychopharmacology CME Course, Boston - "Neuroimaging and psychiatry: research advances"	

Invited Presentations (continued):

- 1999                      Scientific Exchange Program, in conjunction with Mount Sinai School of Medicine, Scientific Institute S. Raffaele, and Janssen-Cilag, University Cultural Club, New York - "Neurobiological substrates of OCD: evidence from neuroimaging"
- 1999                      Psychiatry Grand Rounds, Harvard Longwood Medical Area, Boston - "The role of imaging in psychiatry"
- 1999                      American College of Neuropsychopharmacology, Acapulco, Mexico - "Mapping anterior limbic areas: neuroimaging studies of PTSD"
- 2000                      Psychiatry Grand Rounds, Yale University School of Medicine, New Haven, CT - "Neuroimaging and the neurobiology of anxiety disorders"
- 2000                      Fourth International OCD Conference, St. Thomas - "Anterior cingulotomy for severe treatment-refractory OCD"
- 2000                      Third Annual CNS Summit, sponsored by Janssen Pharmaceutica Research Foundation, Scottsdale, AZ - "Advances in neuroimaging of anxiety disorders"
- 2000                      Anxiety Disorders Association of America, Washington, D.C. - **Millennium Lecture:** "Advances in neuroimaging and the neurocircuitry of anxiety disorders"
- 2000                      MGH Psychiatric Neuroscience CME Course, Boston - "Psychiatric neuroimaging research: the example of OCD"
- 2000                      MGH Clinical Functional MRI CME Course, Boston - "Functional MRI studies of anxiety disorders"
- 2000                      International Organization for Human Brain Mapping Annual Meeting, San Antonio, Texas - Plenary Session on "Psychiatric Disorders" (Chair)
- 2000                      Mount Sinai Hospital, New York & S. Raffaele Scientific Institute, Milan Scientific Exchange Program, Boston Symposium - "Neurobiological substrates of OCD: evidence from neuroimaging"
- 2000                      McLean Hospital Solvay Visiting Preceptorship, Belmont, MA - "Integrated use of neuroimaging techniques in psychiatric research: the example of OCD"
- 2000                      Collegium Internationale Neuro-Psychopharmacologicum, Symposium: Abnormal neurocircuitries in OCD - Brussels, Belgium, "Functional abnormalities in OCD: integrating imaging & cognitive neuroscience"
- 2000                      Collegium Internationale Neuro-Psychopharmacologicum, Symposium: PTSD: the impact of new understanding on clinical management - Brussels, Belgium, "What does brain imaging tell us about neurocircuitry in PTSD?"
- 2000                      Obsessive Compulsive Foundation Annual Meeting, Chicago - **Keynote Address:** "Neuroimaging and the neurobiology of OCD"
- 2000                      Manitoba University, Department of Psychiatry Grand Rounds, Winnipeg - "Psychiatric neuroimaging research: the example of OCD"

Invited Presentations (continued):

- 2000 Medical University of South Carolina, Department of Psychiatry  
Grand Rounds, Charleston, SC - "Advances in neuroimaging of OCD"
- 2000 Massachusetts Hospital SmithKline Beecham Visiting Preceptorship, Boston -  
"Neuroimaging research in psychiatry: the example of OCD"
- 2000 MGH Psychopharmacology CME Course, Boston -  
"Neuroimaging and psychiatry: clinical applications"
- 2000 American College of Neuropsychopharmacology, San Juan -  
"Neuroimaging and the neurocircuitry of body image disorders"
- 2000 American College of Neuropsychopharmacology, San Juan -  
"Developing fMRI probes of amygdala function for the study of anxiety disorders"
- 2001 Forum 2001: Perspectives on Psychiatry for the Future, sponsored by GlaxoSmithKline,  
Palm Springs, CA - "Advances in neuroimaging and neurocircuitry models of PTSD"
- 2001 Forum 2001: Perspectives on Psychiatry for the Future, sponsored by GlaxoSmithKline,  
Fajardo, Puerto Rico - "Advances in neuroimaging and neurocircuitry models of PTSD"
- 2001 Massachusetts Biotechnology Council, Meeting on Visions From The Cutting Edge,  
Boston - Plenary Session on Brain Research: The Ultimate Frontier,  
"Psychiatric neuroimaging research: the example of OCD"
- 2001 Providence VA Medical Center, Brown University, Dept. of Mental Health  
and Behavioral Sciences, Grand Rounds, Providence, RI -  
"Neuroimaging and the neurobiology of PTSD"
- 2001 Grand Rounds, University of Massachusetts Medical Center,  
Department of Psychiatry, Worcester, MA - "Neuroimaging and  
the neurobiology of obsessive compulsive disorders"
- 2001 Grand Rounds, Cornell University, Weill Medical College,  
Department of Psychiatry, New York - "Neuroimaging and  
the neurobiology of obsessive compulsive disorders"
- 2002 Forum 2002: Perspectives on Psychiatry for the Future, sponsored by  
GlaxoSmithKline, Dana Point, CA - "Advances in neuroimaging and  
neurocircuitry models of PTSD"
- 2002 Tourette Syndrome Association Workshop on Neuroimaging Research,  
Queens, New York - "Functional MRI probes for studying Tourette syndrome"
- 2002 American Psychopathological Association, Annual Meeting,  
New York, New York - Session on Human Imaging and Treatment,  
"Neuroimaging of anxiety disorders and their treatment"
- 2002 New York Academy of Sciences Conference -  
The Amygdala in Brain Function: Basic and Clinical Approaches,  
Galveston, TX - "Neuroimaging studies of amygdala function in anxiety  
disorders"

Invited Presentations (continued):

- 2002                      Grand Rounds, Medical College of Wisconsin,  
Department of Psychiatry, Milwaukee - "Neuroimaging and the  
neurobiology of obsessive compulsive disorders"
- 2002                      Noon Research Conference, Medical College of Wisconsin, Neuroimaging Center,  
Milwaukee - "Neuroimaging and the neurobiology of posttraumatic stress disorder"
- 2002                      Society of Biological Psychiatry, Philadelphia -  
symposium on: "Development of the neuroendocrine brain" (Co-chair)
- 2002                      Society of Biological Psychiatry, Philadelphia - Session on Novel Means for  
Designing, Analyzing and Interpreting Functional MRI Studies, "Developing fMRI  
probes of amygdala function for the study of anxiety disorders"
- 2002                      American Psychiatric Association, Philadelphia - Symposium on  
Recent Developments in the Science and Treatment of PTSD,  
"What can neuroimaging teach us about PTSD?"
- 2002                      Collegium Internationale Neuro-Psychopharmacologicum, Symposium:  
Anxiety Disorders; Mind Meets Brain - Montreal,  
"Future directions in the psychobiology of anxiety disorders"
- 2002                      NATO Sponsored Advanced Research Workshop on Psychiatric Neuroimaging,  
Chiavari, Italy - **Opening Plenary Lecture:** "Neuroimaging: a contemporary  
approach to improved understanding of                      mental illness"
- 2002                      NATO Sponsored Advanced Research Workshop on Psychiatric Neuroimaging,  
Chiavari, Italy - Session: "Imaging of anxiety and affective disorders" (Chair)
- 2002                      NATO Sponsored Advanced Research Workshop on Psychiatric Neuroimaging,  
Chiavari, Italy - Concluding Session on Neuroimaging in the 21st  
century & multi-centre studies (Moderator)
- 2002                      **George B. Murray Limbic System Lecture**, Massachusetts General Hospital,  
Boston - "Filming wild horses: neuroimaging studies of the human limbic system  
in anxiety disorders"
- 2002                      Science Lecture Series in Psychiatry, Tufts University School of Medicine,  
Boston - "Neuroimaging and the neurobiology of obsessive compulsive disorders"
- 2002                      American College of Neuropsychopharmacology, San Juan -  
"What are the Neural Substrates for OCD?" (Discussant)
- 2002                      American College of Neuropsychopharmacology, San Juan -  
"Neuroimaging and the neurocircuitry relevant to neurosurgical treatment  
of OCD"
- 2003                      Psychosomatic Conference, Division of Psychiatry in Medicine,  
Massachusetts General Hospital - "The neurobiology of panic disorder"  
(Discussant)
- 2003                      NIMH Sponsored Workshop on Integrating Clinical & Basic Processes in  
ADHD, Boston, MA - "Integrating neuroimaging, cognitive neuroscience  
and genetics: from OCD to ADHD"

Invited Presentations (continued):

- 2003 Medical Grand Rounds, Spaulding Rehabilitation Hospital, Boston -  
"Filming wild horses: neuroimaging studies of the human limbic system in  
posttraumatic stress disorder"
- 2003 **Richard Rosen Lecture**, UCLA, Los Angeles, CA -  
"Advances in neuroimaging and the neurobiology of OCD"
- 2003 Special Seminar, University of Texas Medical Branch,  
Departments of Psychiatry and Neurosurgery, Galveston -  
"Limbic system surgery for obsessive compulsive disorder:  
From neuroanatomy to clinical practice"
- 2003 Grand Rounds, University of Texas Medical Branch,  
Department of Psychiatry, Galveston - "Advances in neuroimaging  
and the neurobiology of obsessive compulsive disorders"
- 2003 Psychosomatic Conference, Division of Consultation/Liaison Psychiatry,  
Massachusetts General Hospital - "Neuroanatomy of the basal ganglia and  
its implications for neuropsychiatric disorders" (Discussant)
- 2003 Society of Biological Psychiatry, San Francisco - Paper Session on  
"Depression and its treatment" (Chair)
- 2003 Special Lecture, Penn State College of Medicine, Hershey Medical Center,  
Hershey, PA - "Filming wild horses: neuroimaging studies of the human limbic  
system in anxiety disorders"
- 2003 Anxiety Disorders Association of America Workshop on Novel Approaches to  
Treatment Refractory Anxiety Disorders, Lansdowne, VA. Work Group on Novel  
Biological Approaches - "Emerging strategies for the application of neuroimaging in  
anxiety disorders"
- 2003 American Association of Physician Specialists Annual Meeting, Las Vegas, NV -  
Plenary Lecture, "Advances in neuroimaging research: examples from psychiatry"
- 2003 Special Lecture, University of Vermont College of Medicine, Burlington, VT -  
"Filming wild horses: neuroimaging studies of the human limbic system in anxiety  
disorders"
- 2003 Visiting Lecture Series, Department of Psychology, Uppsala University,  
Uppsala, Sweden - "Filming wild horses: neuroimaging studies of the human limbic  
system in anxiety disorders"
- 2003 Invited Lecture, University of Massachusetts, Amherst, MA -  
"Filming wild horses: neuroimaging studies of the human limbic system in  
posttraumatic stress disorder"
- 2003 Sixth International OCD Conference, Lanzarote, Spain -  
"Brain imaging across the anxiety disorders"
- 2003 Sixth International OCD Conference, Lanzarote, Spain -  
"Biology and treatment across the anxiety disorders" (Chair)
- 2003 The Obsessive Compulsive Foundation, Boston Chapter, Boston -  
Guest lecture - "Neurobiology of OCD"

Invited Presentations (continued):

- 2004                      Deep Brain Stimulation for OCD Clinical Consortium Meeting, Boston -  
"Neuroimaging, DBS and OCD"
- 2004                      Advancing the Neuroscience of ADHD: An Educational and Scientific Conference,  
in collaboration with The Society of Biological Psychiatry, Boston -  
Session on Neuroimaging (Discussant / Leader)
- 2004                      Anxiety Disorders Association of America, Annual Meeting, Miami, FL -  
**Keynote Address:** "Neuroimaging and the neurocircuitry of anxiety disorders"
- 2004                      Combined Neuroscience Grand Rounds, Depts of Neurology, Neurosurgery, and  
Psychiatry, Massachusetts General Hospital, Boston, MA - "Advances in the  
neurobiology of OCD: From neuroimaging to neurotherapeutics"
- 2004                      Psychiatry Grand Rounds, University of Michigan, Ann Arbor, MI - "Advances in  
the neurobiology of OCD: From neuroimaging to neurotherapeutics"
- 2004                      Society of Biological Psychiatry, New York - Symposium on "Imaging amygdalo-  
frontal interactions: implications for mood and anxiety disorders" (Chair)
- 2004                      Society of Biological Psychiatry, New York - Symposium on Deep Brain  
Stimulation for Intractable OCD and Depression: Basic Neuroanatomy, Functional  
Neurocircuitry, Imaging Effects of Stimulation and Clinical Findings,  
"Imaging effects of deep brain stimulation"
- 2004                      Trans-NIH Workshop on Pediatric Functional Neuroimaging, Bethesda -  
Plenary presentation: "Emotional regulation and amygdalar circuits"
- 2004                      Collegium Internationale Neuro-Psychopharmacologicum, Paris -  
Symposium on "Understanding anxiety: brain imaging perspectives"  
(Co-chair)
- 2004                      Collegium Internationale Neuro-Psychopharmacologicum, Paris -  
Symposium on Understanding Anxiety: Brain Imaging Perspectives,  
"Brain imaging of obsessive compulsive disorder"
- 2004                      Collegium Internationale Neuro-Psychopharmacologicum, Paris -  
Symposium on Understanding Anxiety: Brain Imaging Perspectives,  
"Brain imaging and posttraumatic stress disorder"
- 2004                      Collegium Internationale Neuro-Psychopharmacologicum, Paris -  
Symposium on The Pathophysiology of Anxiety, "Brain circuits of  
anxiety"
- 2004                      Exploring the Brain: An Educational Forum for the Public Leaders of Massachusetts, Boston -  
"Psychiatric Neuroimaging Research"
- 2004                      Bi-Annual Meeting of the American Association of Stereotactic and Functional Neurosurgery,  
"Neuromodulation Defining the Future", Cleveland- Plenary Session on, Surgery for  
Neuropsychiatric Disorders, Invited presentation: "Imaging and the neurocircuitry relevant to  
surgical treatment of obsessive compulsive disorder"



Invited Presentations (continued):

- 2004                      Psychiatry Grand Rounds, Cornell University, Weill Medical College, New York -  
"Filming wild horses: Imaging the human limbic system in PTSD"
- 2004                      Annual Meeting of the Academy of Psychosomatic Medicine, Marco Island, FL - Plenary  
presentation: "Filming wild horses: Imaging the human limbic system in anxiety disorders"
- 2004                      American College of Neuropsychopharmacology, San Juan - Symposium on  
"Complex cortical-basal ganglia neural networks: 3D reconstructions in rat and  
monkey help understand the network that underlies disease and therapeutic  
intervention" (Co-chair)
- 2004                      American College of Neuropsychopharmacology, San Juan -  
"Cortical-basal ganglia networks in obsessive compulsive disorder: what is the role of the dorsal  
striatum?"
- 2004                      American College of Neuropsychopharmacology, San Juan -  
"Neuroimaging the effects of deep brain stimulation: what can we see?"
- 2005                      NIMH/NIDA Sponsored Meeting, "Extinction: The Neural Mechanisms of Behavior Change",  
Ponce, Puerto Rico - Symposium on neural substrates in humans, "Neurocircuitry models of anxiety  
disorders and extinction: Toward a refined understanding of frontal subterritories".
- 2005                      Anxiety Disorders Association of America, Seattle - Roundtable symposium, "Bridging the gap  
between biopsychological technologies and clinical practice in anxiety disorders"
- 2005                      Anxiety Disorders Association of America, Seattle -  
"Neuroimaging studies of panic disorder: parallels to PTSD"
- 2005                      American Academy of Neurology, Miami - Course on, Structure Function Correlations in Behavioral  
Neurology; Lecture, "Neuropsychiatry of the limbic system and basal ganglia: Examples from  
imaging studies of anxiety disorders"
- 2005                      Invited Lecture, University of Massachusetts, Biotap, Amherst, MA -  
"Neuroimaging research in psychiatry: the example of posttraumatic stress disorder"
- 2005                      Invited Lecture, Novartis Institute for Biomedical Research, Basel, Switzerland - "Neuroimaging and  
the neurocircuitry of PTSD: A model influenced by fear conditioning and extinction"
- 2005                      Invited Lecture, Vrije Universiteit Medical Center, Department of Psychiatry, Amsterdam,  
Netherlands - "Neuroimaging and the neurocircuitry of PTSD: A model influenced by fear  
conditioning and extinction"
- 2005                      Invited Presentation, American Psychiatric Institute for Research and Education, Arlington, VA,  
Meeting on Fear and Stress Circuitry Disorders, The Future of Psychiatric Diagnosis: Refining the  
Research Agenda - "Neural circuits"
- 2005                      Invited Presentation, MGH and Mood & Anxiety Disorders Institute Public Program on  
Understanding Anxiety Disorders, Boston - "Anxiety & the brain"

Invited Presentations (continued):

- 2005                      Invited Presentation, University of Missouri - Columbia - Brain Imaging Symposium on Neuroimaging and the Varieties of Psychology. "Neuroimaging of clinical and abnormal processes: the example of PTSD"
  
- 2005                      American College of Neuropsychopharmacology, Kona, Hawaii - Symposium on "Neural mechanisms of extinction: Translating from rats to man" (Co-chair)
  
- 2005                      American College of Neuropsychopharmacology, Kona, Hawaii - Symposium on "New neuroimaging findings in the pathophysiology and treatment of panic disorder" (Chair)
  
- 2005                      American College of Neuropsychopharmacology, Kona, Hawaii - "MRI studies of extinction retention in human subjects"
  
- 2005                      American College of Neuropsychopharmacology, Kona, Hawaii - "Functional MRI studies of amygdalo-cortical function in panic disorder"
  
- 2006                      Invited Presentation, Boston VA National Center for PTSD - "Neuroimaging & the neurocircuitry of PTSD: A model based on translational research in fear conditioning and extinction"
  
- 2006                      Psychosomatic Conference, Division of Consultation/Liaison Psychiatry, Massachusetts General Hospital - "Fear, phobias and the brain"" (Discussant)
  
- 2006                      Invited Presentation, Tufts University Medical School, Dept. of Psychiatry, Grand Rounds, Boston - "Neuroimaging & the neurocircuitry of PTSD: A model based on translational research in fear conditioning and extinction"
  
- 2006                      Invited Presentation, Shriners Burns Institute, Seminar Series on Biomedical Engineering, Boston - "Neuroimaging & the neurocircuitry of PTSD: A model based on translational research in fear conditioning and extinction"
  
- 2006                      Anxiety Disorders Association of America, Miami - Annual Satellite Research Symposium, "Treatment innovations: Discovery and Dissemination" (Substitute, Program Chair)
  
- 2006                      Anxiety Disorders Association of America, Miami - Symposium, "There Are No ZZZs in Anxiety", presentation on: "Sleep and the neurocircuitry of anxiety disorders"
  
- 2006                      Anxiety Disorders Association of America, Miami - Symposium, "Neural Substrates of Cognitive-Affective Processing in individuals with Social Anxiety Disorder" (Discussant)
  
- 2006                      Invited Presentation, Mount Sinai Medical School, Dept. of Psychiatry, Grand Rounds, New York - "Neuroimaging & the neurocircuitry of PTSD: A model based on translational research in fear conditioning and extinction"
  
- 2006                      Invited Presentation, Mount Sinai Medical School, Dept. of Psychiatry, New York - "Applications of neuroimaging in psychiatry"

Invited Presentations (continued):

- 2006                      Invited Presentation, Mount Sinai Medical School, Dept. of Psychiatry, New York - "Advances in the neurobiology of OCD: From neuroimaging to neurosurgical treatments"
- 2006                      MGH Combined Neuroscience Grand Rounds - "Translational neuroscience and PTSD: Leveraging human neuroimaging and fear conditioning across species"
- 2006                      Invited Presentation, Long Island Jewish Hospital, Dept. of Psychiatry, Grand Rounds, Glen Oaks, New York - "Neuroimaging & the neurocircuitry of PTSD: A model based on translational research in fear conditioning and extinction"
- 2006                      American Society of Stereotactic and Functional Neurosurgery, Boston - Invited **Plenary Presentation**, "Neuroimaging studies of psychiatric neurosurgery"
- 2006                      Invited Presentation, "Psychiatry in 2006" Course sponsored by McLean Hospital, Boston - "Neurobiology of fear and anxiety"
- 2006                      Invited Presentation, American Psychiatric Institute for Research and Education, Arlington, VA, Meeting on Obsessive Compulsive & Related Disorders, The Future of Psychiatric Diagnosis: Refining the Research Agenda - "Neuroimaging and the neurocircuitry of OCD"
- 2006                      Collegium Internationale Neuro-Psychopharmacologicum, Chicago - Symposium on Translational Approaches to the Psychobiology Anxiety Disorders (Chair)
- 2006                      Collegium Internationale Neuro-Psychopharmacologicum, Chicago - Symposium on Translational Approaches to the Psychobiology Anxiety Disorders, "Translational studies of extinction and circuitry models of anxiety disorders"
- 2006                      Collegium Internationale Neuro-Psychopharmacologicum, Chicago - Symposium on State of the Art and New Findings in OCD (Chair)
- 2006                      Collegium Internationale Neuro-Psychopharmacologicum, Chicago - Symposium on State of the Art and New Findings in OCD, "Neuroimaging findings and neurocircuitry models of OCD: an update"
- 2006                      MIT Center for Biomedical Innovation, 5th Annual Celebration of Biotechnology, Forum on The Changing Landscape of Mental and Neurological Illness: Personalized Medicine & CNS Disorders, "Personalized treatment in psychiatry: the role of neuroimaging"
- 2006                      Invited Presentation, Dartmouth Medical School, Dept. of Psychiatry, Grand Rounds, Hanover, New Hampshire - "Neuroimaging & the neurocircuitry of PTSD: A model based on translational research in fear conditioning and extinction"
- 2006                      Invited Presentation, University of Chicago Medical School, Dept. of Psychiatry, Grand Rounds, Chicago - "Neuroimaging & the neurocircuitry of PTSD: A model based on translational research in fear conditioning and extinction"
- 2007                      Invited Presentation, Columbia University College of Medicine, Dept. of Psychiatry, Grand Rounds, New York, NY - "Neuroimaging & the neurocircuitry of PTSD: A model influenced by conditioning and extinction"

Invited Presentations (continued):

- 2007 Anxiety Disorders Association of America, St. Louis - Annual Satellite Research Symposium, "The Evolution of Anxiety Disorders in DSM-V: Controversies, Consensus, and Implications" (Program Co-chair)
- 2007 NARSAD, Second Annual Boston Mental Health Symposium, Boston – (Symposium Moderator & Guest Dinner Speaker on Psychiatry in the 21st Century)
- 2007 Neurorestoration Symposium, Harvard Medical School, Boston -- “From neuroimaging and neurocircuitry models of disease to targeted neuromodulation in psychiatry”
- 2007 Italian Society of Biological Psychiatry, Naples, Italy - Plenary session on OCD, “Neural basis of obsessions”
- 2007 Annual Meeting of the American Academy of Child and Adolescent Psychiatry, Boston - Symposium on “Neural substrates of pediatric anxiety: Imaging findings within a developmental perspective (Discussant)
- 2007 University of Massachusetts Medical School, Department of Psychiatry Grand Rounds, Worcester - "Neuroimaging & the neurocircuitry of PTSD: A model based on translational research in fear conditioning and extinction"
- 2007 American College of Neuropsychopharmacology, Boca Raton - Symposium on "Translational research on DBS and the Neurocircuitry of OCD" (Discussant)
- 2007 American College of Neuropsychopharmacology, Boca Raton - Symposium on "How can translational neuroscience inform DSM-V: the example of the OCD spectrum", presentation on “Neuroimaging and the neurocircuitry of OCD”
- 2007 Combined MGH and McLean Hospital Special (national) Broadcast: presentation on “Advances in psychiatry and the treatment of depression”
- 2008 Boston University Medical School, Departments of Psychiatry, Neurology, and Neuroanatomy joint Grand Rounds, Boston - "Neuroimaging & the neurocircuitry of PTSD: A model based on translational research in fear conditioning and extinction"
- 2008 University of Minnesota, Center for Cognitive Sciences Student Research Day, invited speaker, Minneapolis - "Neuroimaging & the neurocircuitry of PTSD: A model influenced by fear conditioning and extinction"
- 2008 McMaster University, Psychiatry Grand Rounds, Hamilton, Ontario, Canada - "Neuroimaging & the neurocircuitry of PTSD: A model based on translational research in fear conditioning and extinction"
- 2008 Obsessive Compulsive Foundation Annual Meeting, Boston - Session on "OCD in DSM V" (Chair)
- 2008 Obsessive Compulsive Foundation Annual Meeting, Boston - Symposium on "Advances in Neuroimaging Research on OCD" (Chair)
- 2008 Given Institute, Aspen, CO - "21st century psychiatry: From epidemic to innovation"

Invited Presentations (continued):

- 2008 University of Puerto Rico, Department of Psychiatry, 50th Anniversary Conference, San Juan, PR - Plenary presentation, "Neuroimaging and the neurobiology of anxiety disorders: Translational neuroscience in psychiatry"
- 2008 Baystate Medical Center, Department of Psychiatry, CME Course on OCD, Holyoke, MA - "Neurocircuitry, neuroimaging and the neurosurgical treatment of OCD".
- 2009 Vanderbilt Medical School, Dept. of Psychiatry, Grand Rounds, Nashville, TN – "Neuroimaging & the neurocircuitry of PTSD: A model based on translational research in fear conditioning and extinction"
- 2009 Society of Biological Psychiatry, Annual Meeting, Vancouver – Oral Presentation Session on "Anxiety" (Chair).
- 2009 NARSAD & Sidney R. Baer, Jr. Foundation, 4<sup>th</sup> Annual Boston Mental Health Research Symposium (Chair).
- 2009 American College of Neuropsychopharmacology, Hollywood, FL – Plenary on "Neurocircuitry: A window into the networks underlying neuropsychiatric disease" (Co-chair)
- 2009 American College of Neuropsychopharmacology, Hollywood, FL – Symposium on "The emotional brain: integrating basic knowledge & translation into novel therapeutic approaches for anxiety in MDD, PTSD, and ADHD" (Discussant)
- 2009 American College of Neuropsychopharmacology, Hollywood, FL – Symposium on "Examining the glutamate hypothesis of OCD with neuroimaging and genetics" (Discussant)
- 2010 University of Texas Southwestern, Dept. of Psychiatry, Grand Rounds, Dallas, TX – "Neuroimaging & the neurocircuitry of PTSD: A model based on translational research in fear conditioning and extinction"
- 2010 Anxiety Disorders Association of America, Baltimore, MD – Symposium on "Genetic factors and frontal-striatal-thalamic circuit dysfunction in pediatric obsessive compulsive disorder" (Discussant)
- 2010 World Congress of Behavioral and Cognitive Therapies, Boston – Panel on "DSM V and Anxiety: An update and discussion on the untidy task of carving nature at its joints" (Panelist)
- 2010 World Congress of Behavioral and Cognitive Therapies, Boston – Symposium on "Neural mediators of behavior therapy in social anxiety disorder" (Discussant)
- 2010 World Congress of Behavioral and Cognitive Therapies, Boston – Symposium on "Cognitive processes in OCD: visual attention, explicit memory, executive function and neurocognitive deficits" (Discussant)
- 2010 Cleveland Clinic Foundation, Dept. of Psychiatry, Grand Rounds, Cleveland, OH – "Neuroimaging & the neurocircuitry of PTSD: A model based on translational research in fear conditioning and extinction"
- 2010 American College of Neuropsychopharmacology, Miami, FL – Travel Awardee oral research presentations on Mapping Human Neurocircuitry (Chair)

Invited Presentations (continued):

- 2011 Anxiety Disorders Association of America, New Orleans, LA – Research Symposium: "Update on Body Dysmorphic Disorder: Research Findings and Treatment Approaches" (Discussant)

- 2011 American College of Neuropsychopharmacology, Kona, Hawaii – Travel Awardee oral research presentations on Clinical and Translational Research (Chair)
- 2012 Amherst College, Amherst, MA - Symposium: Careers in Mental Health
- 2012 Anxiety Disorders Association of America, Washington, DC – Research Symposium: "Pediatric Anxiety: Risk, Mechanism, and Treatment" (Discussant)
- 2012 Anxiety Disorders Association of America, Washington, DC – Research Symposium: "Domains of Neural Function Associated with OCD" (Discussant)
- 2012 McLean/HMS Depression, Anxiety & Stress CME Course, Boston - "Overview of Depression, Anxiety & Stress in 2012"
- 2012 Florida Psychiatric Society - 2012 Fall CME Meeting, on "Neuroscience, Efficacy, Effectiveness and Economic Impact of Psychiatric Care", St. Pete Beach, FL - Invited lecture, "Neuroimaging and the neurocircuitry of PTSD: a model influenced by fear conditioning & extinction"
- 2012 American College of Neuropsychopharmacology, Hollywood, FL – Symposium on "Anxiety Disorders: New Evidence for Structural and Functional Connectivity Abnormalities" (Discussant)

#### Advisees and Trainees:

<u>Duration</u>	<u>Name</u>	<u>Current Position</u>
1995-02	Cary Savage	Professor, Dir. Functional MRI, U. Kansas
1995-03	A. George Bush, MD	Assoc. Prof., Psychiatry, MGH/HMS
1996-99	Paul Whalen, PhD	Professor, Psychology, Dartmouth
1996-03	Stephan Heckers, MD	Professor & Chair, Psychiatry, Vanderbilt
1996-05	Darin Dougherty, MD	Assoc. Prof., Psychiatry, MGH/HMS
1997-05	Lisa Shin, PhD	Professor, Psychology, Tufts University
1997-03	Dara Manoach, PhD	Assoc. Prof., Psychology/Neurology, MGH/HMS
1998-06	Chris Wright, MD, PhD	Medical Director, Vertex, Cambridge, MA
1998-05	Gina Kuperberg, MD	Assoc. Prof., Psychology, Tufts University
1999-01	Hakan Fischer, PhD	Asst. Prof., Karolinska Institute, Stockholm
1999-06	Anthony Weiss, MD	Asst. Prof., Psychiatry, MGH/HMS
1999-11	Thilo Deckersbach, PhD	Asst. Prof, Psychiatry, MGH/HMS
2000-01	Brian Martis, MD	Asst. Prof., Psychiatry, Univ. of Michigan
2002-11	Daphne Holt, MD, PhD	Asst. Prof., Psychiatry, MGH/HMS
2003-10	Gary Strangman, PhD	Asst. Prof., Psychiatry, MGH/HMS
2003-11	Mohammed Milad, PhD	Assoc. Prof., Psychiatry, MGH/HMS
2003-06	Sarah Cavanagh, PhD	Faculty member, Assumption College
2004-07	Karleyton Evans, MD	Asst. Prof., Psychiatry, MGH/HMS
2004-06	Frida Polli, BS	MBA Candidate, Harvard Business School
2005-07	John Levine, MD, PhD	Asst. Prof., Psychiatry MGH/HMS
2005-07	Joshua Roffman, MD	Asst. Prof, Psychiatry, MGH/HMS
2005-08	Jennifer Britton, PhD	Fellow, Intramural, NIMH
2006-07	Kelimer LeBron-Milad	Instructor, Psychiatry, MGH/HMS
2008-09	Anthony Burgos-Robles, PhD	Research Fellow, MIT
2008-	Scott Killgore, PhD	Asst. Prof, Psychiatry, McLean/HMS
2009-	Ann Shinn, MD, MPH	Research Fellow, McLean/HMS
2010-	Isabelle Rosso, PhD	Asst. Prof, Psychiatry, McLean/HMS

#### Doctoral Supervision and Thesis Committees:

2003	Anna Pissioti; opponent at thesis defense, Dept. of Psychology, University of Uppsala, Sweden
2003-06	Sarah Cavanagh; Dept. of Psychology, Tufts University
2005	Odile A. van den Heuvel; opponent at thesis defense, Dept. of Psychiatry, Vrije Universiteit, Amsterdam, Netherlands
2006	Elbert Geuze; external evaluator for honors designation, University Medical Center Utrecht, Netherlands
2008	Invited panelist, University of Michigan, Department of Psychiatry, Research Track Review
2008	Lyn Pilowsky; Doctoral dissertation reviewer, Flinders University, Australia
2009	Alison Knoll; Doctoral dissertation defense committee, Harvard Program in Neuroscience

#### Major Research Interests:

1. Neuroimaging in Psychiatry
2. Anxiety and Obsessive Compulsive Disorders
3. Neuroscience of Limbic and Cortico-Striatal Systems
4. Neurobiology of Emotion
5. Surgical and Device-based Treatment of Neuropsychiatric Disorders

Bibliography: \*[Note: per ISI, November 2011, H-index = 71]

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2. Gallagher DW, Rauch SL, Malcolm AB. Alterations in a low affinity GABA recognition site following chronic benzodiazepine treatment. *Eur J Pharmacol* 1984;98:159-160.
3. Gallagher DW, Lakoski JM, Gonsalves SF, Rauch SL. Chronic benzodiazepine treatment decreases postsynaptic GABA sensitivity. *Nature* 1984;308:74-77.
4. Rauch SL, Hitzemann RJ. Developmental changes in synaptic membrane order: A comparison of regions in the rat brain. *Dev Brain Res* 1986;26:221-227.
5. Vorhees CV, Rauch SL, Hitzemann RJ. Effects of short term prenatal alcohol exposure on synaptic membrane order in rats. *Dev Brain Res* 1988;38:161-166.
6. Vorhees CV, Rauch SL, Hitzemann RJ. Prenatal phenytoin exposure decreases neuronal membrane order in rat offspring hippocampus. *Int J Dev Neurosci* 1990;8:283-288.
7. Vorhees CV, Rauch SL, Hitzemann RJ. Prenatal valproic acid exposure decreases neuronal membrane order in rat offspring hippocampus and cortex. *Neurotoxicol Teratol* 1991;13:471-474.
8. Sanders KM, Stern TA, O'Gara PT, Field TS, Rauch SL, Lipson RE, Eagle KA. Delirium during intraaortic balloon pump therapy: Incidence and management. *Psychosomatics* 1992;33:35-44.
9. Sanders KM, Stern TA, O'Gara PT, Field TS, Rauch SL, Lipson RE, Eagle KA. Medical and neuropsychiatric complications associated with the use of the intraaortic balloon pump. *J Intensive Care Med* 1992;7:154-164.
10. Kosslyn SM, Alpert NM, Thompson WL, Maljkovic V, Weise SB, Chabris CF, Hamilton SE, Rauch SL, Buonano FS. Visual mental imagery activates topographically organized visual cortex: PET investigations. *J Cog Neurosci* 1993;5:263-287.
11. Rauch SL, Jenike MA, Alpert NM, Baer L, Breiter HC, Savage CR, Fischman AJ. Regional cerebral blood flow measured during symptom provocation in obsessive-compulsive disorder using <sup>15</sup>O-labeled CO<sub>2</sub> and positron emission tomography. *Arch Gen Psychiatry* 1994;51:62-70.
12. Kosslyn SM, Alpert NM, Thompson WL, Chabris CF, Rauch SL, Anderson AK. Identifying objects seen from canonical and noncanonical viewpoints: a PET investigation. *Brain* 1994;117:1055-1071.
13. Rauch SL, Savage CR, Alpert, NM, Miguel EC, Breiter HC, Baer L, Manzo PA, Moretti C, Fischman AJ, Jenike MA. A positron emission tomographic study of simple phobic symptom provocation. *Arch Gen Psychiatry* 1995;52:20-28.
14. Baer L, Rauch SL, Ballantine HT, Martuza R, Cosgrove R, Cassem E, Giriunas I, Manzo P, Jenike MA. Cingulotomy for intractable obsessive-compulsive disorder: prospective long-term follow-up of 18 patients. *Arch Gen Psychiatry* 1995;52:384-392.
15. O'Driscoll GA, Alpert NM, Matthysse S, Levy D, Rauch SL, Holzman PS. The functional neuroanatomy of antisaccade eye movements investigated with positron emission tomography. *Proc Nat Acad Sci USA* 1995;92(3):925-929.



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16. Miguel EC, Coffey BJ, Baer L, Savage CR, Rauch SL, Jenike MA. Phenomenology of intentional repetitive behaviors in obsessive-compulsive disorder and Tourette's syndrome. *J Clin Psychiatry* 1995;56:246-255.
17. Morris ED, Fisher RE, Alpert NM, Rauch SL, Fischman AJ. In vivo imaging of neuromodulation using positron emission tomography: optimal ligand characteristics and task length for detection of activation. *Hum Brain Mapping* 1995;3:35-55.
18. Rauch SL, Savage CR, Brown HD, Curran T, Alpert NM, Kendrick A, Fischman AJ, Kosslyn SM. A PET investigation of implicit and explicit sequence learning. *Hum Brain Mapping* 1995;3:271-286.
19. Stromswold K, Caplan D, Alpert N, Rauch SL. Localization of syntactic comprehension by positron emission tomography. *Brain & Language* 1996;52:452-473.
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21. Rauch SL, O'Sullivan RJ, Jenike MA. Open treatment of OCD with venlafaxine. *J Clin Psychopharmacol* 1996;16:81-84.
22. Schacter DL, Alpert NM, Savage CR, Rauch SL, Albert MS. Conscious recollection and the human hippocampal formation: evidence from positron emission tomography. *Proc Nat Acad Sci USA* 1996;93:321-325.
23. Rauch SL, van der Kolk BA, Fiesler RE, Alpert NM, Orr SP, Savage CR, Fischman AJ, Jenike MA, Pitman RK. A symptom provocation study of posttraumatic stress disorder using positron emission tomography and script-driven imagery. *Arch Gen Psychiatry* 1996;53:380-387.
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54. Worthington JJ, Rauch SL. Approach to the patient with anxiety. In: Goroll AH, Mulley AG (eds.) *Primary Care Medicine*, 5th edition, Philadelphia: Lippincott, Williams & Wilkins, 2006:1329-1337.
55. Worthington JJ, Rauch SL. Approach to the patient with depression. In: Goroll AH, Mulley AG (eds.) *Primary Care Medicine*, 5th edition, Philadelphia: Lippincott, Williams & Wilkins, 2006:1339-1353.
56. Deckersbach T, Dougherty DD, Rauch SL. Mood and anxiety disorders. In: D'Esposito M (ed.) *Functional MRI: Applications in Clinical Neurology and Psychiatry*. New York: Taylor & Francis. 2006:115-136.
57. Milad MR, Rauch SL. The orbitofrontal cortex and anxiety disorders. In: Zald DH, Rauch SL (eds.) *The Orbitofrontal Cortex*. Oxford: Oxford University Press. 2006:523-543.
58. Dougherty DD, Shin LM, Rauch SL. Orbitofrontal cortex activation during functional neuroimaging studies of emotion in humans. In: Zald DH, Rauch SL (eds.) *The Orbitofrontal Cortex*. Oxford: Oxford University Press. 2006:377-391.
59. Weiss AP, Rauch SL, and Price BH. Neurosurgical intervention for psychiatric illness: past, present, and future. In: Miller BL and Cummings JL (eds). *The Human Frontal Lobes: Functions and Disorders* 2nd ed, The Guilford Press, New York. 2007:505-517.
60. Dougherty DD, Rauch SL. Brain correlates of antidepressant treatment outcome from neuroimaging studies in depression. *Psychiatr Clin North Am*. 2007;30(1):91-103.
61. Dougherty DD, Rauch SL. Somatic therapies for treatment-resistant depression: new neurotherapeutic interventions. *Psychiatr Clin North Am*. 2007;30(1):31-7.
62. Gilbertson MW, Orr SP, Rauch SL, Pitman RK. Trauma and posttraumatic stress disorder. In: Stern TA, Rosenbaum JF, Fava M, Biederman J, Rauch SL, eds. *Comprehensive Clinical Psychiatry*. Philadelphia: Mosby-Elsevier. 2008:465-80.

Book Chapters (continued):

63. Dougherty DD, Rauch SL. Neurotherapeutics. . In: Stern TA, Rosenbaum JF, Fava M, Biederman J, Rauch SL, eds. Comprehensive Clinical Psychiatry. Philadelphia: Mosby-Elsevier. 2008:645-50.
64. Holt DJ, Ongur D, Wright CI, Dickerson BC, Rauch SL. Neuroanatomical systems relevant to neuropsychiatric disorders. In: Stern TA, Rosenbaum JF, Fava M, Biederman J, Rauch SL, eds. Comprehensive Clinical Psychiatry. Philadelphia: Mosby-Elsevier. 2008:975-96.
65. Dougherty DD, Rauch SL. Neuroimaging in psychiatry. In: Stern TA, Rosenbaum JF, Fava M, Biederman J, Rauch SL, eds. Comprehensive Clinical Psychiatry. Philadelphia: Mosby-Elsevier. 2008:1023-30.
66. Stein DJ, Rauch SL. Neuropsychiatric aspects of anxiety disorders. In: Yudofsky SC, Hales RE, eds. Neuropsychiatry and Behavioral Neurosciences. Washington DC: American Psychiatric Publishing, Inc. 2008:1025-44.
67. Rauch SL, Drevets WC. Neuroimaging and neuroanatomy of stress-induced and fear circuitry disorders. In: Andrews G, Charney DS, Sirovatka PJ, Regier DA, eds. Stress-Induced and Fear Circuitry Disorders: Refining the Research Agenda for DSM-V. Arlington VA: American Psychiatric Association. 2009:215-254.
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69. Greenberg BD, Dougherty DD, Rauch SL. Neurosurgical treatments. In: Sadock BJ, Sadock VA, Ruiz P (eds.) Comprehensive Textbook of Psychiatry, Ninth Edition. Philadelphia: Wolters Kluwer / Lippincott, Williams & Wilkens. 2009:3314-3322.
70. Deckersbach T, Savage CR, Rauch SL. Neuropsychology of obsessive-compulsive disorder. In: Wood SJ, Allen NB, Pantelis C (eds.) The Neuropsychology of Mental Illness. Cambridge, UK: Cambridge University Press. 2009:342-352.
71. Stein DJ, Rauch SL. Neuropsychiatric aspects of anxiety disorders. In: Yudofsky SC, Hales RE, eds. Neuropsychiatry and Behavioral Neurosciences. Washington DC: American Psychiatric Publishing, Inc. 2010:479-94.
72. Silverman BC, Summergrad P, Rauch SL, Fricchione GL. Medical psychiatry and its future. In: Stern TA, Fricchione GL, Cassem NH, Jellinek MS, Rosenbaum JF, eds. Massachusetts General Hospital Handbook of General Hospital Psychiatry, 6th Edition. Philadelphia: Saunders Elsevier. 2010:697-706.
73. Rauch SL. Neuroimaging of anxiety disorders: commentary. In: Shenton ME, Turetsky BI, eds. Understanding Neuropsychiatric Disorders: Insights from Neuroimaging. Cambridge, UK: Cambridge University Press. 2011:308-11.

Other Educationally Relevant Publications:

1. Rauch SL. A role for hyperordered neural membranes in the pathophysiology of epilepsy [Salvator Adriano Essays in Pathology]. Cincinnati, Ohio: University of Cincinnati College of Medicine (Pathology), 1985. 17 pp.
2. Rauch SL. "Misti". In: Paige NM, Alloggiamento T, eds. *Vital Signs, UCLA Poet Physician Anthology*. Los Angeles: UCLA Medical Press, 1990:36.
3. Rauch SL. Cases 46 - 48. In: Greist JH, Jefferson JW, eds. *Obsessive-Compulsive Disorder Casebook*. Washington, DC: American Psychiatric Press, 1995:131-137.
4. Rauch SL, Savage CR, Breiter HC. Investigations of psychiatric disease using functional neuroimaging and symptom provocation. *Medical Imaging International* 1995;7/8:6-7.
5. Rauch SL. Opening a window: Psychiatric neuroimaging research. *J Cal Alliance Ment Ill* 1996;7:45-47.
6. Expert consensus panel for OCD. The Expert Consensus Guideline Series: Treatment of Obsessive Compulsive Disorder. March JS, Frances A, Carpenter D, Kahn DA (eds.). *J Clin Psychiatry* 1997;58(suppl 4):3-72.
7. Rauch SL. Book Review - Essential Papers on Obsessive-Compulsive Disorder. *Am J Psychiatry* 1998;155:1130-1131.
8. Expert consensus panel for PTSD. The Expert Consensus Guideline Series: Treatment of Posttraumatic Stress Disorder. Foa EB, Davidson JRT, Frances A (eds.). *J Clin Psychiatry* 1999;60(suppl 16):3-68.
9. Committee on Gulf War and Health: Brain Injury in Veterans and Long-term Health Outcomes. Long-Term Consequences of Traumatic Brain Injury. Gulf War and Health Volume 7. Board on Population Health and Public Health Practice. Institute of Medicine of The National Academies. Washington DC: The National Academies Press. 2009.
10. Committee on the Initial Assessment of Readjustment Needs of Military Personnel, Veterans and their Families. Returning home from Iraq and Afghanistan: Preliminary assessment of readjustment needs of veterans, service members, and their families. Board on the Health of Select Populations. Institute of Medicine of The National Academies. Washington DC: The National Academies Press. 2010.

**Current Research Funding:**

2012 - 17	NIMIH 1R01MH097964 [Milad] "Functional MRI Study of Conditioned Fear Across Anxiety Disorders" Total Direct Costs: ~\$1,900,000	Co-investigator
2012 - 17	NIMH 1R01MH096987 [Rosso] "Cerebral GABA and Fear Conditioning in PTSD" Total Direct Costs: ~1,250,000	Co-investigator
2012 - 16	W81XWH-12-1-0386 [Killgore] "A Model for Predicting Cognitive and Emotional Health from Structural and Functional Neurocircuitry Following Traumatic Brain Injury" Total Direct Costs: ~1,481,647	Co-investigator
2012 - 15	W81XWH-12-1-0109 "Internet Based Cognitive Behavioral Therapy Effects on Depressive Cognitions and Brain Function" Total Direct Costs: \$1,265,498	PI
2011 - 14	McLean Hospital/Philanthropic Support [Kaufman] "Developmental Neuroimaging Studies of a Genetically Modified Mouse Model of OCD" Total Direct Costs: ~\$150,000	Co-PI

**Past Research Funding:**

2006 - 11	NIMH R01 MH070730 "Probing Amygdalo-Cortical Circuitry in Anxiety Disorders" Total Direct Costs: \$1,080,000	PI
2005 - 10	NIMH R01 MH074848 [Rosenbaum] "Family Imaging Study of Children at Risk for Anxiety" Total Direct Costs = \$1,377,271	PI (to Co-investigator)*
2005 - 10	NIMH R01 MH071467 [Schwartz] "Infancy to Adolescence: fMRI and Risk for Anxiety" Total Direct Costs = ~\$1,000,000	Co-investigator
2005 - 10	NIMH R01 MH073111 [Haber] "The Neural Network of Deep Brain Stimulation in OCD" Total Direct Costs = \$649,540	Subcontract PI (to Co-PI)*
2006 - 10	McIngvale Foundation [Jenike/Wilhelm/Rauch] "Longitudinal Study of Children at Risk for OCD" Total Direct Costs: ~\$5 million	Co-PI (PI Imaging)
2004 - 09	NIMH R01 MH68376 [Pizzagalli] "Neuroimaging Studies of Reward Processing in Depression" Total Direct Costs = ~\$250,000 (subcontract)	Co-investigator (subcontract)
2004 - 08	NIMH R21 MH072156 "Prefrontal Mechanisms in Retention of Fear Extinction" Total Direct Costs = \$525,000	PI
2003 - 08	NIMH R01 MH64019 [Spencer] "DAT Binding by PET in Adult ADHD" Total Direct Costs = ~\$1,500,000	Co-investigator
2009 - 12	W81XWH-09-1-0730 [Killgore] "The Neurobiological Basis and Potential Modification of Emotional Intelligence Through Affective/Behavioral Training" Total Direct Costs: \$319,842	Co-investigator

\*Note, roles on several grants changed upon appointment to President at McLean Hospital, requiring reduction in research time effort.

**Past Research Funding (continued):**

2003 - 07	NIMH R01 MH067890 [Schmahmann] "Cognitive Effects of Cerebellar Lesions in Humans" Total Direct Costs = ~\$1,000,000	Co-investigator
2002 - 07	NIMH R01 MH54636 [Pitman] "Twin study of biological markers for PTSD" Total Direct Costs = \$2,297,157	Co-PI
2002 - 07	NIDRR H133A021934 [Glenn] "Traumatic Brain Injury Model Systems" Total Direct Costs = \$1,222,000	Co-investigator (& subcontract PI to Co-I)*
2002 - 07	NIMH R01MH62152 [Seidman] "Neuroanatomy of Adult ADHD: An MRI morphometric study" Total Direct Costs = \$1,250,000	Co-investigator
2003 - 06	NSF-BCS-0242229 [Bush] "Combined Functional MRI and Intracranial Recordings in Humans" Total Direct Costs = \$898,952	Co-investigator
2001 - 06	NIMH R01 MH50214 [Nestadt] "Collaborative OCD Genetics Study" Total Direct Costs = \$433,065 (subcontract)	PI (subcontract)
2001 - 03	NSF [Ambady] "Implicit racial and emotional categorization: A preliminary fMRI Study" Total Direct Costs = \$58,000	Co-investigator
2001 - 03	NSF [Feldman-Barrett] "Functional MRI studies of emotional working memory" Total Direct Costs = \$58,000	Co-investigator
2000 - 02	Shriners' Burns Institute [Fischman] "Assessing brain function in posttraumatic stress disorder: A PET study in parents of children with burn injuries" Total Direct Costs = \$200,000	Co-investigator
1999 - 05	NIMH R01 MH60219 "Probing basal ganglia function in obsessive compulsive disorder" Total Direct Costs = \$918,434	PI
1999 - 02	M.I.N.D. Institute [Swerdlow] "Neural substrates of startle gating deficits in Tourette syndrome" Total Direct Costs = \$40,325	PI (subcontract)
1999 - 01	Tourette Syndrome Association "Developing fMRI probes for use in pediatric TS patients" Total Direct Costs = \$31,306	PI

\*Note, roles on several grants changed upon appointment to President at McLean Hospital, requiring reduction in research time effort.

**Past Research Funding (continued):**

1998 - 00	Eli Lilly, Inc. "MRI study of brain function in patients with schizophrenia" Total Direct Costs = \$105,393	PI
1996 - 98	NARSAD "Validation of a functional imaging probe for research in schizophrenia" Total Direct Costs = \$60,000	PI
1995 - 99	NIMH R01 MH50275 [Jenike] "PET activation studies in patients with OCD" Total Direct Costs = \$418,629	Co-investigator
1995 - 96	Tourette Syndrome Association "Probing cortico-striatal circuitry in TS using fMRI" Total Direct Costs = \$22,593	PI
1994 - 99	NIMH K20MH01215 "Developing probes of cortico-striatal circuitry" Total Direct Costs = \$666,085	PI
1994 - 96	Pfizer, Inc. "PET receptor characterization techniques in brain " Total Direct Costs = \$72,000	PI
1994 - 95	Obsessive-Compulsive Foundation [O'Sullivan] "Symptom provocation study of Trichotillomania with fMRI" Total Direct Costs = \$20,000	Co-investigator
1993 - 95	NARSAD "PET activation study in patients with OCD" Total Direct Costs = \$60,000	PI